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Mass. Commissioners on flats in
Boston Harbor

SENATE.....

.....No. 3.

REPORT OF THE COMMISSIONERS

IN RELATION TO THE

FLATS IN BOSTON HARBOR.

—♦—
JANUARY, 1850.

[Haven, 1850]
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JOSEPH WILSON OF NEW YORK

Commonwealth of Massachusetts.

To the Legislature of Massachusetts :—

The undersigned, Commissioners appointed by the Governor and Council, pursuant to a Resolve of the General Court of May 10, 1848, “to consider and report to the next Legislature what are the rights and duties of the Commonwealth in relation to the flats in the harbor of Boston ;—also, to consider whether the public good requires that any portion of said flats should be filled, and to what extent ; and whether the maritime interests do now, or probably may hereafter, require the excavation of any part of them to enlarge the harbor accommodations ;—and also, if it shall be deemed expedient to fill any of said flats, to report the outlines of a plan for that purpose, and the terms upon which such filling up should be authorized,”—now present the following

REPORT:

The commissioners originally appointed, pursuant to the above mentioned resolve, first met on the fourth day of September, 1848, to consider the course to be pursued by them in the discharge of the duties of their commission. They then agreed to meet again, in the Senate chamber, on the twenty-fifth day of the same month, to hear all parties and persons who might wish to be heard on the subjects referred to the commissioners, and that public notice of the time and place of their next meeting, signed by the chairman, should be published, as soon as practicable, in the Boston Daily Advertiser and the Boston Post, newspapers published in Boston. Such notice was accordingly given.

The commissioners met again at the time and place appointed therefor, as above mentioned. At this meeting, and at eight subsequent public meetings, held, from time to time, until the

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twenty-first day of October, 1848, the riparian proprietors at South Boston, and the Boston Wharf Company appeared by their respective counsel; the Marine Society, and merchants and others in the city of Boston, were represented by committees appointed for that purpose; and several other persons, representing various interests, appeared and presented their evidence, statements, and arguments in support of their respective views. After these public hearings were closed, the commissioners met from time to time, for consultation and advisement, but were unable fully to accomplish the objects of their appointment in season to present their final report within the time prescribed by the Resolve of the General Court. A vacancy in the board of commissioners having afterwards occurred by the resignation of the Hon. Richard Fletcher, the proceedings of the commissioners were suspended until the vacancy was filled by the appointment of John M. Williams as his successor, on the third day of October last.

The commissioners resumed their labors, and a meeting was held on the seventeenth day of October last. They have since had frequent meetings, and have devoted to the discharge of their duties all the time which could be spared from their other necessary avocations. They have sought and obtained valuable information and suggestions from various sources: they have heard and considered the claims of the city of Roxbury, the Water Power Company, and others supposed to be interested in the flats in the Back Bay,—of persons who wish for legislative authority to fill the flats near the mouth of Mystic River,—of owners of wharves in Boston,—of shipmasters, merchants, engineers, and others,—and, after due deliberation, now proceed to submit to the Legislature, the result of their investigations as to the rights, duties, and interests of the Commonwealth in relation to the flats in question.

The rights of the Commonwealth in relation to the flats in Boston harbor, are,

1st. The right of *eminent domain*. This is an inherent right of sovereignty. It extends over all the property in the Commonwealth, and authorizes the government to take any private, as well as public property for public use, as the public exigency may require. This right is recognized, though not in express terms granted, by the Constitution of the Commonwealth, (Part

I, Art. 10,) which declares that whenever the public exigency requires that the property of any individual should be appropriated to public uses, he shall receive a reasonable compensation therefor.

The exercise of this power is confided to the sound discretion of the Legislature. By the Constitution, (Part II, Art. 4,) full power and authority are given and granted to the General Court, from time to time, to make, ordain and establish all manner of wholesome and reasonable orders, laws, statutes and ordinances, directions and instructions, so as the same be not repugnant or contrary to the Constitution, as they shall judge to be for the good and welfare of the Commonwealth.

The implied limitation, in the Constitution, of the power to appropriate private property to public uses, to cases of public exigency, has been construed liberally in favor of the exercise of the power. Its exercise has not been limited to cases of absolute necessity, or extreme urgency, nor to cases of direct action by the Legislature. The power has been delegated in certain cases, and under certain restrictions, to other tribunals, to corporations, to individuals; and in cases in which the primary objects of those corporations and individuals was their own emolument, and not the public good. The Legislature has accordingly delegated to county commissioners the power to take the property of individuals, without the consent of the owners, for public highways; to corporations, the power to take property without the consent of the owners, to make turnpike roads, railroads, canals and toll bridges; and to individual owners of mill sites, the power and right, by erecting dams on their own land, to overflow the lands of other individuals, without their consent, to raise heads of water to drive their mills. These delegations and exercises of power have been sanctioned by repeated judicial decisions.

There can therefore be no doubt that the Commonwealth has the power and the right, by legislative enactments, to appropriate any or all the flats in Boston harbor, whether owned by the Commonwealth, or by individuals, at such times, in such manner, and for such public uses, as, in the judgment of the Legislature, the public interest and welfare, or, in other words, the public exigency, may require; taking care only to provide a reasonable compensation for those individuals whose property may be so appropriated.

2d. In a large part of the flats in Boston harbor, the Commonwealth has not only the right of eminent domain, but also the right of property and ownership.

By the common law of England, which our ancestors brought with them, claiming it as their birthright, and which was in force there at the time of their emigration to, and settlement in Massachusetts, under the colonial charter of Charles I, the right of soil in the shores of the sea, and other navigable waters, where the tide ebbs and flows, is in the sovereign. The rule of that law is, that this right of property to high water mark is in the king, as the representative and depositary of the nation's sovereignty, and for the use and benefit of all his subjects.

When the American revolution took place, the people of this State became themselves sovereign, and succeeded to all the rights of the British government and nation, and of the colonial and provincial governments and people, including the right to all navigable waters, and the soil under them, excepting such parts only, as had been previously granted to others.

A claim was made before the commissioners, and urged with great research, learning and ability, in behalf of the riparian owners, that their title and property in the soil extended, by the civil law, and by the original common law, not only over all the adjoining flats, but over all the soil to the centre of the channel, —*usque ad filum aquæ*—subject only to the public easement of a right of way, navigation and fishery over it; that this rule was in force in England until the introduction and establishment of the feudal system; that the supposed rule, that the king is the owner of the soil to high water mark, is founded on the legal fiction or assumption of the feudal law, that all the property in the kingdom was originally the king's, and still remained in him, except so far as adverse claimants could prove their title by express grant, or by prescription, which is founded on the supposition of a grant.

The commissioners have not deemed it necessary to ascertain what was the law of England on this subject prior to the Norman conquest, and the consequent introduction and establishment of the feudal system. Our ancestors, the original colonists of Massachusetts, brought with them, and claimed as their birthright, the common law, as it existed at the time of their emigration, without regard to the time and manner of its introduction

and establishment. Lord Chief Justice Hale, in his treatise, "*de jure maris*," a work of the highest authority, written about the time of the first settlement of the colony of Massachusetts Bay, states, as an established rule of the common law, that to the king belongs, of common right, all the navigable waters of the kingdom, and the soil under them, extending to high water mark; and this principle has ever since been uniformly and distinctly recognized and stated by all approved elementary writers, and by the highest judicial authority, in England, and in the United States, whenever they have had occasion to refer to this subject. The commissioners therefore consider the rule to be too firmly established, as the common law rule, to be now disturbed or controverted.

But the question as to the extent of the title of the riparian owners, according to the rules of the common law, may not, in the present investigation, be important, because this question in Massachusetts appears to have been conclusively settled at a very early period of colonial history, by express legislation. By the ordinance of 1641, passed by the General Court under the authority of the colonial charter of Charles I, it is expressly declared, "that in all creeks, coves, and other places, about and upon salt water, where the sea ebbs and flows, the proprietor of the land adjoining shall have propriety to the low water mark, where the sea doth not ebb above a hundred rods, and *no more*, wheresoever it ebbs further."

This ordinance has been generally understood, by judges and jurists, to extend, by its operation, the title of the riparian proprietors from high to low water mark, or one hundred rods below high water mark, as the case may be. But whether it operates as an extension or limitation of their title, is not material. In either case it establishes its extent.

This ordinance continued in force until it was annulled in 1684, with the charter under the authority of which it was enacted. But in 1691, under the authority of the charter of William and Mary, it was, with other laws of the colony in operation at the time of annulling the former charter, revived and continued in force, until further order of the General Court. No such further order was passed on the subject, and the ordinance, therefore, was in full force and operation at the time of the adoption of the Constitution of the Commonwealth. By that instrument,

(Part II, Ch. 6, Art. 6,) "all laws which have heretofore been adopted, used and approved in the province, colony, or State of Massachusetts Bay, and usually practised on in the courts of law, shall remain and be in full force, until altered or repealed by the Legislature." The ordinance in question has never been altered or repealed by the Legislature, and is consequently in full force at this time. It establishes a rule of construction of grants of land, "in all creeks, coves, and other places, about and upon salt water, where the sea ebbs and flows." It expressly establishes and defines the line to which the property of the adjoining owners shall, and beyond which it shall not, extend. There seems, therefore, to be no room to doubt that, in Massachusetts, the dividing line on the flats, between the property of the Commonwealth and the riparian owners, is the line of the low water mark, or a hundred rods from high water mark, as the case may be.

There is another view of this subject, which leads to the same conclusion, and which may be no less satisfactory. By the charter of James I, granted, in 1620, to the council established at Plymouth in the county of Devon; the grant by this council in 1627 to Sir Henry Rosewell and others, and the colonial charter of Charles I, in 1628, a large tract of land therein described, and including within its boundaries, Boston harbor, and the adjoining territory, and also all lands, ground, place and places, soils, havens, ports, rivers, waters, jurisdiction, rights, royalties, liberties, freedoms, immunities, privileges, franchises, preëminences, hereditaments, and commodities whatsoever, within the chartered limits, was granted to Sir Henry Rosewell and others, his associates therein named. This charter of Charles I constituted and made the grantees, and their successors and assigns, a body politic and corporate, with ample legislative, and other powers, for the government and ordering of the granted lands, and the people inhabiting the same, in full sovereignty, with some small reservations which are not material to the present investigation.

The right of the king to make this grant, with all its prerogatives and powers of government, cannot at this day be questioned. The charters were granted by the proper organ of the government for that purpose. They were substantially similar to charters granted about the same time to other companies and

individuals, for the colonization and settlement of British colonies in America. Those charters have always been acquiesced in and recognized in England as valid grants of territories and powers. The colonists in Massachusetts accepted the charter of Charles I; assumed a political capacity; exercised dominion, according to its provisions, over all the territory and inhabitants within the chartered limits; made grants of townships and smaller tracts of land for the purpose of settlements, and succeeded to all the territorial rights of the British sovereign, government, and nation.

It is true, that this colonial charter of Charles I was annulled in 1684 by an arbitrary decree in chancery,—a decree against which the colonists protested, and which was by a solemn vote of the House of Commons declared to be “illegal and void.” But the provincial charter of William and Mary in 1691, renewed the grant of the colonial charter with similar powers of government, and confirmed the titles which had been granted under it by the colonial authority. The province thus succeeded to all the territorial rights of the colony, and at the revolution, the Commonwealth succeeded to all the territorial rights of the province. The title of the Commonwealth to the land within its borders, and all the land titles in the Commonwealth, are thus traced to their origin, under and by virtue of the royal charters. Thus, also, it appears, that the Commonwealth is seized of all the lands, whether upland, flats, or land under navigable waters, within the bounds of the State, which have not been heretofore granted by the colony, province, or Commonwealth; and we thus perceive, that on this subject, what in England is mere assumption, is here fact; what there, is a mere theory of the feudal system, is here, reality; what there, is a mere fiction of law, is here, absolute verity.

Having thus shown that the Commonwealth has the right of property in a large portion of the flats in the harbor of Boston, and the right of eminent domain in all, the commissioners proceed to inquire what are the limitations and restrictions of its rights and power in and over those flats.

1st. The right of eminent domain is limited only by the Constitution of Massachusetts, the Constitution of the United States, and the laws made in pursuance thereof, and the public exigen-

cies. The existence and extent of the public exigencies are to be determined by the sound judgment and discretion of the Legislature.

2d. The right and power of the Commonwealth are limited by the ordinance of 1641. By that ordinance the riparian owners have the property of the flats lying between the lines of high water mark and low water mark, or a hundred rods, as the case may be. Over the flats included between these lines, the Commonwealth have only the right of eminent domain.

3d. The right of the Commonwealth is limited by other grants of soil or easements, or by prescription which is founded on the supposition of a grant to individuals or corporations. Such grants have been made by the Legislature, from time to time, for various purposes. These grants have been made not only of flats beyond the hundred-rod line mentioned in the ordinance of 1641, but extending in and across deep waters and channels. To the extent of these grants, the Commonwealth has relinquished its title and power. Such grants are in the nature of contracts; and the Commonwealth can pass no law impairing their obligation. The number and extent of the rights acquired by these grants have not been ascertained by the commissioners.

4th. The riparian owners have the right, appurtenant to their land and wharves, to the use of the water for the purpose of passing to and from their lots and wharves. The Commonwealth cannot divest them of this right, except by the constitutional exercise of the power to take private property for public purposes. If therefore, for example, the value of a wharf is impaired by the construction of a railroad, dam, or other structure, between the wharf and the channel, the owner of the wharf is entitled to compensation for the damages thus sustained by him.

5th. The rights and powers of the Commonwealth in relation to the flats are restricted by the powers granted to the government of the United States. The Commonwealth cannot exercise its power in a manner repugnant to the Constitution of the United States, or the laws made in pursuance thereof. That Constitution declares,

1st. That Congress shall have power to regulate commerce with foreign nations and among the several States.

2d. That the citizens of each State shall be entitled to all the privileges of citizens in the several States.

3d. That the judicial power of the United States shall extend to all cases of admiralty and maritime jurisdiction.

Pursuant to these provisions, Boston has been made a port of entry and delivery. Under the Constitution, treaties and laws of the United States, the navigable waters of its harbor are a highway for the ships of all friendly nations, and this Commonwealth has no right to exclude or obstruct their free ingress and egress. The State cannot therefore grant to its own citizens the free use of its waters for any purposes of lawful navigation or commerce, to the exclusion of all or any other persons. But Congress has passed no law directly affecting the flats in the harbor, or impairing the right of the Commonwealth to legislate on all subjects of internal police within its territorial limits, which are not prohibited by the Constitution and laws of the United States, although such legislation may indirectly and remotely affect navigation and commerce, provided it does not contravene the regulations of Congress on the same subject. The Commonwealth may therefore authorize the erection of a bridge, dam, or railroad, across navigable waters, and may, to some extent, appropriate them to other purposes, by authorizing the construction of a solid dam across a creek or cove, and permitting the land to be filled up and converted into upland.

The better opinion seems to be, in England, that the king holds the land between high and low water mark, as well as under all navigable waters, in trust for the use of the people; and though he may grant his private right to others, it must still be subject, in the hands of his grantee, to the right of all his subjects to pass and repass, without obstruction, on both the land and water. It has been supposed by some that, in analogy to this principle, the Commonwealth holds the flats over which its title extends, in trust for all the people, and can only alienate them subject to this trust. But the analogy fails in two important particulars. 1st. The Commonwealth, in its sovereign capacity, possesses not only the rights and powers, on this subject, which are possessed by the king in England, but also of the British Parliament, consisting of king, lords, and commons; and it has never been doubted that Parliament, in its arrogated omnipotence, may grant an exclusive right to flats, unincumbered

by the supposed trust. 2d. The Commonwealth is the public—the people—in whom, in their collective capacity, full sovereignty resides. The Commonwealth is, therefore, both the trustee and beneficiary. The trust estate and beneficial interest are united, and consequently the trust is merged in the fee.

Subject to the restrictions and limitations before mentioned, the Commonwealth has the full power, title and control of the flats in Boston harbor. The right to manage and dispose of them is, by the Constitution of the Commonwealth, vested in the Legislature. The Commonwealth may, by the acts and at the discretion of the Legislature, cause or permit them to be excavated or embanked, or retained, or otherwise disposed of. It may grant them to the city, to the riparian proprietors, or to other persons or corporations, at such times, in such manner, on such terms and conditions, and for such considerations of public benefit, pecuniary or otherwise, as the Legislature, in the exercise of its sound, constitutional discretion, may judge to be most proper, and most conducive to the public interest and welfare.

Having passed upon the first branch of the subject, viz., “the rights of the Commonwealth,” we will now proceed to another branch, “the duties of the Commonwealth” in relation to the flats in question. This involves the remaining inquiries contained in the resolve, “whether the public good requires that any portion of said flats should be filled, and whether the maritime interests do now, or probably may hereafter, require the excavation of any part of them.”

The subject is one of great importance, involving in no small degree the future growth of the city, and the commercial prosperity of the State. Nor has this subject escaped the attention of the Legislature. In 1835, a commission was created by a legislative resolve, to examine the subject, and report lines, “beyond which no wharves shall be extended into the waters of the harbor.” This commission consisted of Loammi Baldwin, S. Thayer, and James Hayward, Esquires, three engineers of ability and experience, who, after a full examination of the subject, submitted in 1837 a detailed report. Though the primary object of this commission was to “fix a line, beyond which no wharves should be extended,” yet, as might have been expected of gentlemen of their character and experience, they took

an enlarged view of the character and condition of the harbor, and expressed their apprehensions that the filling up of large portions of the flats would be detrimental to the commerce of Boston. This part of their report is so lucid, and so expressive of the views which we entertain, that we cannot refrain from giving a portion of it.

“The harbor of Boston,” they say, “is not an open, broad bay, surrounded on all sides by the sea shore, where the tide simply ebbs and flows with a gentle and almost imperceptible current, but it is wholly made and continued as channels, through which the tides ascend into immense basins and rivers, some of which reach many miles into the country, and from which the tides descend again into the ocean, and in their progress, scour out the channels according to the quantity and velocity of the current produced by the ebb. That part on the southeast, called Fore Point Channel, is thus made by the tide passing into South Bay,—and the harbor on the north side is only the channel through which the tide flows into the Charles and Mystic Rivers to the head of tide water, to Watertown on the first, and Mystic Pond on the latter. During spring tides the current acts more sensibly in all these channels, as there is a greater quantity passing in the same time than in ordinary neap tides. In the latter, the usual range between high and low water is about seven feet, and during the former the range is fourteen feet from high water to low. It is the channel produced by these alternate currents in opposite directions, in the South Bay, or the great reservoir of the two rivers, that constitute all the advantages of Boston harbor for commercial purposes.

“Boston harbor being only a channel for the tide to flow in and out of the great reservoir before mentioned, it may not be irrelevant to show how it may be suddenly or gradually destroyed, and become only a safe anchorage for lighter coasting craft, where the largest merchant vessels, and even ships of the line, now ride in deep water in perfect safety. It is obvious to every reflecting man, that if a dam were to be built upon the site where South Boston Free Bridge or South Boston Bridge now stands, and the tide be prevented from flowing above, Fore Point Channel would soon be filled with sediment, and not be distinguished from the surface of the flats on the southeast side. Similar effects would also result from the erection of dams in

the places of Chelsea and Charles River Bridges. These would stop the tides, and as there would be no current either way, silt and sediment would in a short time fill this beautiful part of the harbor, and render it only accessible for fishing boats.

“The commissioners are aware that this is putting a strong case, as no such dam can ever be erected without the sanction of the Legislature. But, what would evidently be the consequence in the course of a few years by the supposed dams, will as certainly be effected more gradually, and the ruin of the harbor be as complete at a more distant period, by cutting off large portions of the Charles and Mystic Rivers above the two bridges, either to stop the tides altogether or partially, from flowing and filling the extensive basins of either.”

This board, after citing the ordinance of 1641, granting the right to the shore owners to extend one hundred rods, or to the channel, declare that “they believe, and feel it to be their duty to state the reasons, that the full and equal enjoyment of the right given by this ancient law, is inconsistent with the existence of the harbor. An instance is presented in South Bay. The proprietors of the shores surrounding the flats of this basin, have a right to build their wharves, or solid filling, extending one hundred rods into or over tide water, if not interrupted by channels within that distance. As we do not know any legal objection to their exercising or selling this right, and one hundred rods in width around this basin will make a considerable part of its area, Fore Point Channel may be affected, and as the South Cove Company have already filled nearly all the surface of the flats between the two bridges, the absolute ruin of that channel hangs upon the contingency, whether the ancient law is in force relative to the tide water in South Bay, and whether the owners will exercise their rights. The same effect may be produced in numerous places on the Charles and Mystic Rivers, by a different mode, but quite as fatal to that part of the harbor.”

Such are the views expressed by the enlightened and scientific gentlemen composing that commission; and though in fixing their line, “beyond which no wharves should be permitted to extend,” they may, in a few instances, have enlarged, rather than curtailed the water rights of individuals, they have kept the capacity and safety of the harbor constantly in view; and have made the arrangement, as they say, “so as to produce the few-

est eddies and the least deviation from the easy flow of the currents, which the case admits."

This commission reported a line on both sides of Fore Point Channel, but the Legislature adopted only the line on the Boston side,—a line commencing at South Boston Bridge, and following round the easterly and northerly sides of the city to Warren Bridge.

In 1839 another commission was created, consisting of H. A. S. Dearborn, James F. Baldwin, and Caleb Eddy, Esquires, to mark on the plan of the former commissioners such lines as they might think expedient to establish, "beyond which no wharves shall be extended." This authority related only to such parts of the line as had not been adopted by the Legislature. Their powers being limited, they did not go extensively into the question of affecting the channels in the harbor by filling up the flats. They, however, admit the importance of preserving the harbor; they allow that certain portions of the channels have been filling up, and that it is impossible to determine in advance what effects would be produced by any obstructions being placed where the tide now flows. They say, however, "It may be assumed as an important and well established element in the inquiry, that whatever is done that shall reduce the quantity of water that passes into the large estuaries and bays north, west, and south of the city, and now covers the vast extent of shoals in other parts of the harbor, will have a direct tendency to create obstructions at some points in the various channels, while at others, the depths may be deepened."

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But while they admit that the filling up of any portion of the flats in any part of the harbor, may affect it injuriously, they appear to think that the demand for land is more pressing than for water accommodations. They say, "But such is the imperiously increasing demand for greater accommodation by all the branches of the infinitely varied industry in which the accumulating population of the metropolis is employed, that it is impossible to meet it without yielding much of mere theory, to the practical advantages which will be gained from the increased facilities which such encroachments are intended to afford." But notwithstanding their desire to accommodate business by encroachments upon tide water, they say "that the proprietors of land on the northern shore of South Boston, should not be al-

lowed to extend wharves or other structures over the flats situated between that shore and the main channel which separates those flats from those of East Boston, Bird, and Governor's Islands, beyond the distance of one hundred rods, as prescribed in the Old Colony law of 1641."

This commission recommended lines from Warren Bridge to the Mill Dam, and also on the shores of Charlestown and East Boston, and on the easterly side of Fore Point Channel; which were adopted by the Legislature.

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In 1845 another commission, consisting of James Hayward, and Ezra Lincoln, Jr., Esquires, was created. In their report, which was submitted to the Legislature the year following, several important facts were stated which have a direct bearing upon the subject before us. It appears by their report that the South Bay, above the Old South Boston Bridge, contained, in 1846, 345 acres, and of this area, 250 or 300 acres were liable to be filled up by the shore owners; and that contracts had then been made to fill certain portions of these flats; and we know that the work is now progressing,—so that the day is not distant when the whole of that basin will be completely filled, except the small portion which may be situated below the one hundred rod line.

We also learn from this report, that by actual measurement it was found that the area of Mystic River above Chelsea Bridge, within its banks at low water, was 878 acres, and that the area of the flats and marshes covered at high water was 1533 acres, making 74 per cent. more of the flats and marshes than of the river itself: and that the area of Charles River above Charles River Bridge, including Miller's River, (the estuary back of East Cambridge,) and the bay back of the State Prison, was 1340 acres,—and that the marsh land connected with it, which was overflowed at high tide, was 915 acres;—showing the excess of the river over the marshes and flats of some 35 per cent. It appears then from the report, that the aggregate area of the flats and marshes overflowed by the tides on the Mystic and Charles Rivers, is 2448 acres; while the rivers themselves, above the bridges, contain 2218 acres;—being 230 acres less of the rivers than of the marshes.

The commissioners seem to be deeply impressed with the necessity of keeping open, as far as possible, the estuaries above

Chelsea and Charles River Bridges, to preserve the channels in the harbor. They suggest certain improvements in Mystic River, so as to justify the opening of Mystic Pond, “for the purpose of increasing the scour;” and give it as their opinion, “that the operation would be beneficial to the channel of Mystic River throughout its whole extent, and also to the main channel in the harbor.”

Again they say, “The importance of this river and bay,” (Charles River, and the bay above West Boston Bridge,) “and that of the Mystic, to the preservation of the main channel down to the islands, is altogether incalculable. They are the two main arteries which literally supply the life current of Boston harbor. And the commissioners would respectfully recommend to the Legislature the preservation of these estuaries, to the greatest extent that may be consistent with the rights of individual proprietors of bordering estates. If the modern construction of the colonial law of 1641, that the riparian proprietor has a right to exclude the tide water from the flats in front of his estate, to the distance of one hundred rods, if there be no intervening channel, must prevail, then Boston harbor is in danger of serious injury. The subject is one which commends itself to the careful consideration of the Legislature. The whole State has an interest in it. The preservation of Boston as a place of trade, of commerce, of ships, is every year increasing in importance to the whole northern section of the country. Every part of New England has its railroads running to this city. These have been built for the purposes or business, of trade. They connect the interior of the country with the commerce of the world. But annihilate the harbor of Boston, and these expensive facilities for intercommunication will become of but little value, either to the city or the country.

“The building of new wharves, the extension of old ones, the filling up of flats to the exclusion of the tide, and consequent diversion of the currents, to a greater or less degree, are producing changes in the state of the harbor, some of them innocent,—some of them more or less detrimental to the channels,—and some of them tending to serious consequences. Changes of this kind have been observed since the survey made in 1835. Some of these are traceable to particular causes, and tend to throw light on the general subject of causes and effects in rela-

tion to these changes. They all show the importance of having the harbor *taken care of*."

So impressed were these commissioners with the importance of keeping open the flats above the bridges, that in drawing their line, below which no obstructions should be placed in Charles River, they cut off about 120 acres of flats or marshes, above low water mark, which belonged to the riparian proprietors, being within the one hundred-rod line;—a tract, which a subsequent commission reported could not be kept open without a charge upon the Commonwealth, of some forty-five or fifty thousand dollars.

After expressing these truly enlightened and philosophic views, and presenting them so clearly to the consideration of the Legislature, we confess ourselves unable to comprehend the views they take of the South Bay, and the effect of filling it up, upon Fore Point Channel, and the main channel in the harbor. They say, "with a proper disposition of the channels and flats below, it is believed that this reduction of the area of South Bay will have no prejudicial effect on the main channel of the harbor." And again: "In the present state of things, Fore Point Channel would undoubtedly suffer by a very great reduction of the capacity of South Bay; but if the wall, which was proposed to be built on the eastern margin of this channel, were erected, it would counteract to a great degree the inconvenient effects of such reduction."

As we propose to give our views upon this part of the subject hereafter, we will now proceed to notice the report of the next commission, which was instituted in 1846. This commission consisted of T. G. Cary, Simeon Borden, and Ezra Lincoln, Jr., Esquires. In their report they go vastly beyond all other commissioners, and express the opinion that not only all the flats in front of South Boston, lying above low water, with the exception of a small portion opposite Rowe's wharf, but also some two hundred acres below low water mark, may be filled up without detriment to the harbor. They propose a line drawn "from the southerly corner of Rowe's wharf to the most salient angle of the northwestern bastion of the fortification on Castle Island." "This line," they say, "passes mainly through points where the soundings are about four feet in depth at low water." But while they are thus liberal in their recommendation for the fill-

ing up of the South Boston flats, they admit that any such wholesale encroachments upon the tide water above the city would be a dangerous experiment. They say : " If the whole area of flats opposite South Boston were *above* the city, receiving the tide through any channels by which vessels must pass to reach their places of discharge, there can be no question that it would be extremely dangerous to the commerce of the port to enclose them. To exclude from such a basin a volume of water that aids to scour the channel in the upper harbor, as it passes to and from the sea, four times a day, might produce changes of the most injurious character. The enclosure of the Back Bay, as it is called, by the Western Avenue, is an instance of this kind, which it would be hazardous to repeat. But the flats in question are below the city. The water that covers them aids in no such scouring process. That process is in fact diminished in its effects, by suffering a portion of the water that daily ascends as a supply for the upper basin, to flow over so wide a surface, instead of confining its passage to the channels."

We have now passed in review the reports of the several commissions on the subject before us; and though they differ in some particulars, they all agree that the channels in our harbor are kept open by the scouring effect of the tide, and that filling up the flats, so as to confine tide water within the boundaries of low water mark, would greatly lessen the power and velocity of the currents, reduce the scouring process, and so diminish the depth of the channels. These positions are so self-evident that we shall not attempt to fortify them by any arguments of our own. We concur with our intelligent and experienced predecessors, and are willing to rest this part of the subject on the strength of their arguments. We cannot add to their force.

But while we agree with these gentlemen in their general positions, and are willing to adopt most of their conclusions as our own; we are not so clear that Fore Point Channel is an exception to the rules which they lay down, or to the doctrines for which they contend. If the South Bay were kept open to its full extent, a sea wall upon the easterly side of Fore Point Channel might quicken the current in that channel, and so increase its depth. But as the greater part of that spacious bay is, or will

be, closed so as to exclude the water which has heretofore entered it, we are unable to perceive why the same causes which are allowed to operate in other parts of the harbor, may not operate here to the injury of this channel. Nor are we able to see how a sea wall on the easterly side of this channel can avert the calamity, in case South Bay should be filled up. In that case, there would be little more than a narrow channel left open above the South Boston bridges, and no water would pass up Fore Point Channel, except what would be required to fill the narrow channel above the bridges.

Now if any portion of the flats bordering on Fore Point Channel, are filled from this channel at the flowing of the tide, and the water from the flats returns through the channel at the ebbing of the tide, then the quantity of water passing up and down the channel at every ebb and flow, must be greater without the wall than with it. As the ebb and flow of the tide must take place in a given period of time, the current must increase with the quantity of water that passes through the channel, and hence, the channel would be more likely to be kept open with the flats in their present state than if they were cut off from the channel by a sea wall. The subject then resolves itself into a question of fact, viz., whether Fore Point Channel does supply any portion of the flats with water at the flow, and receive it again from the flats at the ebbing of the tide. Many affidavits, taken by the Boston Wharf Company several years ago, were presented to the commissioners to show that a sea wall on the easterly side of Fore Point Channel, extending down as low as the oyster banks, would improve that channel. But it is worthy of special notice that these depositions were not only *ex parte*, but were taken when South Bay was open, and was likely to remain open;—a state of things very different from what exists at present. It is also true that some of the most intelligent and practical of these deponents found their opinion of the utility of a sea wall upon the apprehension, that the great volume of water from South Bay might cut a new channel through the flats to the main ship channel, and so leave Fore Point Channel to fill up. This was particularly the case with Winslow Lewis, Esq., who had for a long series of years watched with great care the operations of the water in that part of the harbor. Much of this testimony would be materially modified by the present state of things relative to the filling up of South Bay.

But these depositions appear to be conclusive on one point, viz., that a portion of the South Boston flats are filled by water from Fore Point Channel, and that at the ebbing of the tide, the water returns again through this channel to the ocean. The channels or gullies extending from Fore Point Channel some fifteen hundred feet into the flats, as seen on the chart of the coast survey, prove most conclusively, that a sea wall on the eastern margin of Fore Point Channel would cut off from that channel a large quantity of water which now passes through it at every ebb and flow of the tide. This fact being established, it follows of course that the sea wall on the eastern margin would reduce the volume, and consequently the velocity of water in this channel; and with South Bay filled up, as will soon be the case, we have strong fears that the alarming result spoken of by the first board of commissioners, in case a dam were created at South Boston Bridge, will soon be realized, and that Fore Point Channel will be rendered useless for all purposes of navigation.

Nor is it by any means certain that filling up all the South Boston flats,—a tract of some seven or eight hundred acres, now covered by water, at every tide, to the depth of eight or ten feet, will not prove injurious to the main channels in the harbor. It was in evidence before the commissioners that there had been a great reduction in the depth of Fore Point Channel, and also in the main ship channel both in the upper and lower harbor. At the "Narrows," so called, in the lower harbor, it was shown that the water had shoaled from three to five feet within the last twenty or thirty years; and that though this was ascribed in a good degree to the washing away of the islands and headlands in the outer harbor, the same accretion is observable in the upper harbor, where these causes do not exist. In Fore Point Channel, at the "upper middle," and indeed in almost every part of the harbor, the channels are becoming more obstructed by becoming more shoal or more narrow. It is a well known fact, that at the wharves and in the docks there is a constant accretion of matter, so as to render it necessary to dredge them out once in four or five years. S. S. Lewis, agent of the Cunard line of steamers, and one of the commissioners to procure a survey of Boston harbor, testified that from his own personal observation, he knew that not only the docks, but the channels in the upper harbor, were becoming more narrow: and

he gave it as his opinion, that a wall on the easterly side of Fore Point Channel would increase this tendency. Winslow Lewis, Esq., whose acquaintance with the harbor extends back more than half a century, states expressly, that in 1814, the water at the shoalest point of the channel, that is, between the upper middle and Governor's Island, was twenty-one feet deep,—where it is now but seventeen feet. At Liverpool wharf, the water from 1803 to 1808, was fourteen feet deep, where in 1849 it was but nine feet. Thomas Lamb, Esq., one of the Marine Society, testifies that the association of which he is a member, has, from time to time, examined persons acquainted with the subject, and from the information thus obtained, they are satisfied that the water in the channels has shoaled within the last thirty years from two to five feet. This is particularly true of the outer harbor. This effect he ascribes in part to the filling up of the flats in and about Boston. He is also of the opinion that filling up South Bay and the South Boston flats, would prove injurious to the harbor, and would probably cause Fore Point Channel to fill up, as far down as India wharf; and that any considerable diminution of the capacity of the upper harbor, or the estuaries above the city, would weaken the force of the current, and by diminishing the quantity of water from the upper harbor, would disturb the balance of force between the different and contending currents in the lower harbor, and so endanger still more, the main ship channel at the narrows. Mr. Z. Jellison testified substantially to the same facts.

By a chart published in 1761, from an actual survey, and corrected and revised by Osgood Carlton, Esq., it appears that off Fort Hill the water in Fore Point Channel was fifteen feet deep, where it is now only ten or eleven; and off what is now India Wharf, it was then thirty feet, where it is now only thirteen. A comparison of that ancient chart with the recent plans of the city and the harbor, shows that great changes have taken place within the last ninety years. By recent soundings taken by Mr. Parrott, under the direction of this commission, it appears that soft mud is the material always found by him on the margins of the channels; thereby furnishing good evidence that the channels are becoming more narrow by accretion.

But the arguments against filling up these flats are met by the declaration,—that the quantity of water which would be dis-

placed by the proposed improvements, would be so small as to be hardly appreciable upon the main currents in the harbor. But a glance at what has been done, and what may be done, by the shore owners, will show that the quantity of water which has been and may be displaced is far from being inconsiderable. Boston proper, which originally contained less than 1000 acres, now contains more than 3000 acres. This increase of more than 2000 acres has all been made by encroachments upon tide water. In addition to this, the Mill Dam cut off 700 or 800 acres more;—to this may be added the large quantity of land made at Cambridge, Charlestown, Chelsea, and East Boston. Here we have an area of several thousand acres which are forever lost to the harbor. This exclusion of tide water from so large a surface, has produced a sensible effect upon the channels in the harbor. The harbor master testified that the filling up above Charles River Bridge, has produced a visible effect upon the current between Boston and East Boston. By reducing the volume of water from Charles River, the former balance of power between the currents from the Charles and Mystic Rivers at their confluence, had been destroyed; and the consequence was, that the main current between Boston and East Boston was brought nearer to the Boston shore than it was formerly.

But we are not to confine our attention to the three or four thousand acres of flats which have been already irrevocably lost to the harbor. By the report of Messrs. Hayward and Lincoln, in 1846, it appears that at that time the tide flowed over an area of 5000 acres above the Charles River, Chelsea, and South Boston bridges; and of this 5000 acres, 2700 were above low water mark, and so were liable to be filled up by the shore owners, leaving only about 2300 acres to be flowed by the tides. It should also be borne in mind that every acre of the flats situated just above low water, is as important to the harbor, and receives and discharges as much water, as an acre in the deepest channel; it being only the water between high and low water mark which carries on the scouring process, by which the channels are kept open. When we are called upon to decide whether it would be safe to fill up eight or nine hundred acres in front of South Boston, we are to remember that one half of this area may be filled at the pleasure of the shore owners; and the real question to be decided is, whether the State

should, at the present time, authorize the filling up of some four hundred acres more, in addition to the five or six hundred acres at South and East Boston, and the twenty-seven hundred acres above the bridges, all of which may be filled by their respective owners, and much of which will probably be filled, as the demand for land is constantly increasing.

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When the subject is stripped of all its disguises, and is presented in its naked form, we are inclined to hesitate before we pronounce in favor of filling up the flats over which the State has control. When the safety of the harbor is placed in competition with any magnificent scheme of land speculation, we must decide in favor of what we believe to be the safety of the harbor. When we consider, that a volume of water, of an average depth of at least seven feet, covering an area larger than the whole city of Boston proper, is now liable to be excluded from the harbor, we want something more than a mere speculative theory of tides and channels, to justify us in adding to this quantity. When we consider, that flats once filled can never be restored to harbor accommodations; but that flats kept open, can, at any future period be filled, when it shall have been demonstrated by experience, that previous fillings have wrought no injury to the harbor,—we believe it to be the dictate of wisdom to pause before we make any further grants, except they be accompanied with an obligation to make corresponding excavations, or other improvements, in the harbor.

There is, undoubtedly, a natural tendency in all harbors, to fill up. Changes are continually going on along the shores. Rivers are constantly bringing down sediment, which is generally deposited near their mouths. From this operation no harbor is entirely exempt; and before any artificial measures are adopted to increase the quantity of land in and about our city, we should be sure that the harbor will receive no detriment. Great attention has been paid to this subject, in Great Britain, where their harbors and rivers are very similar to our own.

When the Dock Bill, in relation to improvements at Liverpool, was before the House of Commons, in 1844, much valuable testimony was produced, and many important facts were elicited. We will give a few extracts from the evidence, as it is as applicable to Boston as to London or Liverpool.

“The importance of the proper management of this great

power, viz., the tide, which nature has placed at our disposal, cannot be too strongly insisted upon. The same force which breaks up and denudes our coasts, and blocks up with sand or shingle our estuaries, throws up at the same time into our rivers millions of tons of water every twelve hours, which by judicious management and timely precaution, may be employed in counteracting the injurious effects of the sea without. Thus, in all estuaries filling up with sand, increase of reservoirs for the waters of the tide, would enable the river, in the ebb, to clear away the obstructions gradually offered to its course into the sea, and would maintain its depth of channel. This is not to be attained however, by any pent up water, acting by sluices as back water, which in its discharge, resembles a torrent, and produces similar effects, by driving before it for a short distance, the mass it is made to act upon, and then leaving it; such contrivances, though advisable in clearing away mud where no obstruction is offered to its discharge into a stream, becomes insignificant and comparatively useless, when applied as counteractions to the operations of the ocean.

“New channels may be formed, from an increase of deposit in one place, giving a new direction to the water in another, (and it is highly instructive to observe how an apparently very small cause may produce important modifications or alterations,) changing the channels and shifting the banks or shoals; but the generally resulting action, is filling up, viewed as a whole.

“Such are the variable conditions existing in estuaries, and so complicated, often, are the effects of the causes in action, that it becomes of the utmost importance well to study and reflect upon the value of each cause, before we attempt changes in connection with an estuary intended for our advantage; and this more especially, when a great commercial port is situated on a part of such estuary. Much mischief has been found to be occasioned in estuaries by embanking, producing sensible effects when portions, only covered by spring tides, have been taken for agricultural purposes. If we stop out the tide, diminishing the volume of water, even supposing for convenience, that the velocity remains the same, which would not be the case, the scour or mechanical action, cannot be the same as previously;—and this action being diminished, detritus, which

would have been swept onward under the former conditions, would now remain and accumulate.

“ My experience has been considerable, and fully establishes the ruinous consequences of the practice, too frequent in this country, of embanking tidal mud land, particularly where sea entrances, as well as navigable channels within the estuary, are kept open, rather by the tidal water, than by the size and power of the rivers which drain through them.

“ It is evident, that if a certain portion of either side of a river or harbor be embanked, and the tide prevented from flowing over it in the usual way, a diminished quantity of water will flow in from the sea, equal to the cubic contents of what has been embanked, and consequently there will be a less quantity to ebb out ;—and the scouring effect being thereby lessened, it will be rendered incapable of conveying out to the sea the suillage and alluvious matter washed down from the country, with the same force as before the embankment was made.

“ Tide harbors are deep or otherwise, in proportion to the quantity of water that flows into them from the sea, and the fresh water that comes down from the interior. The greater the quantity of water, the greater will be the depth, from the effect which the increased body of water will have in scouring the bottom at the time of ebb tide, and carrying out the suillage, as before mentioned. By embankments within Portsmouth harbor, the depth of water of eighteen feet on the bar, has been reduced to thirteen feet,—by the want of back water,—and ships of war are obliged to take out their guns, even at high water.”

This evidence, given by some of the most experienced engineers and practical men in Great Britain, applies with all its force and pertinency, to the harbor of Boston, and shows the danger of these extensive encroachments upon the sea.

“ In settling the great question before us, we believe that the growing commerce of the city, has not been sufficiently considered. We have obtained official statements of the imports and exports of the port of Boston, and also of the arrivals and clearances, from 1830 to 1849, inclusive,—making a period of twenty years,—which we append to this report. By these statements it will be seen, that our commerce, viewed in all its bearings, has at least tripled within that period. Taking the consecutive years of 1830, 1831, and 1832, our imports aver-

aged \$12,761,767, while in the three consecutive years, ending with 1849, the average imports were \$28,593,100. Here is an increase of \$15,831,333 within the medium period of eighteen years. And if we take the extreme period of twenty years, we shall see that the imports, which in 1830 amounted to only \$8,348,653, have, in 1849, arisen to \$24,117,175.

But the values of our imports are not a test of the increase of business, so far as harbor accommodations are concerned. The great reduction in the prices of almost every article, will show that the quantity has increased in a greater ratio than the value; and it is manifest that it is the quantity, rather than the value, which shows the amount of accommodation which our shipping and navigating interest requires. Our arrivals and clearances, perhaps, furnish the surest test of the increase of our commerce. Our foreign arrivals in 1830, were only 642, while in 1849, they were 3,111;—being 484 per cent. more in 1849 than in 1830. And our coasting arrivals, which in 1830 were 2,938, have gone up, in 1849, to 6,156. The whole number of arrivals in 1830, both foreign and domestic, were 3,680;—while in 1849 they amounted to 9,267. But though these statements are official, they do not show the whole amount of the shipping in our harbor. A vast number of our coasting vessels neither enter nor clear, at the Custom House. These may safely be estimated at four thousand a year, which number is fast increasing. If this number be added to the number of vessels that enter or clear at the port, it will make an aggregate of nearly 14,000, which came into our harbor the past year.

These facts will fully sustain the position that our commerce has tripled in the space of twenty years. And if the commerce of Boston is to go on increasing in this ratio, the day is not far distant when the flats will be wanted for dockage and anchorage of the vessels, which our growing trade will call into this port. And even now these flats are used by vessels of a light draft of water. The eastern coasters, with wood and lumber, frequently pass across the flats at high water. And it was in evidence before the commissioners, that during periods of easterly winds, when it is difficult to go to sea, there are frequently several hundreds of these small vessels, mostly from Maine and the British Provinces, lying in the harbor; and, owing to the crowded state of the channel, large numbers of them resort to

affects

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the soft mud on the flats, for anchorage;—a fact that shows most conclusively, that fifty, or even twenty years hence, the very space which it is now proposed to fill up, will become absolutely necessary to accommodate the vessels in the harbor. The extreme line which has been recommended, which, for the sake of distinction, we will call Mr. Cary's line, not only allows all the South Boston flats to be filled, with the exception of a small point opposite Rowe's wharf, but actually cuts off nearly two hundred acres below low water mark;—the greater portion of which, as shown by the soundings, has a depth, at extreme low water, of from three to four feet,—while some portions of the harbor, thus proposed to be cut off, have a depth of from four to seven feet; and to these soundings we may add two feet, to show the depth at mean low water. Here there are nearly two hundred acres, well adapted to the anchorage of these small coasters, which it has been proposed to fill up; but which, we are satisfied, will, in a few years, become almost indispensably necessary for this class of vessels. We, therefore, should regard it as a departure from the dictates of true wisdom, to suffer any embankment or structure to be erected upon any of the harbor belonging to the State, which can be used as a roadstead, or converted into wet docks.

The great argument in favor of filling up the flats, is, that more land is wanted for warehouses and dwellings. We admit that the circumscribed condition of the city is such as to create a good demand for land. But the harbor is as circumscribed as the town; and the demand, prospective at least, is as great for water as for land. In prospect, there is a great demand for both. But we consider the demand for water to be paramount. The demand for land is, in a great degree, an individual demand,—the demand of companies engaged in speculations; while the demand for water is a demand of the public,—a demand of commerce,—in which the State and nation have a deep and vital interest. When such claims come in competition, that of the public should prevail.

It may be some inconvenience to the merchant to reside out of the city,—but it would be a greater one to have his vessel compelled to anchor out of the harbor. The numerous and increasing trains upon our railroads, and the hourly and half hourly coaches which are constantly passing and repassing, be-

tween the city and the neighboring towns, render it no great inconvenience to reside five, or even ten miles, from State street. Whether his residence is ten minutes' or thirty minutes' ride from his place of business, is of but little consequence to the merchant; but it is a matter of great moment to him whether his vessel can anchor in the upper harbor or in Nantasket roads. So of the railroad corporations, whose claims are urged with great force. They had better stop one or two hundred rods short of navigable water, than to run so far into tide water as to destroy the channels of the harbor,—and so render their railroads unproductive. We say again, that we regard the demand for water as greater than that for land;—the former being the demand of public, the latter, that of private interest.

It has been represented to the commissioners, by a number of merchants, that there is a great demand for wharf accommodations in the city, especially for lumber, molasses, and other bulky articles. We have no doubt but that it would be somewhat convenient for persons engaged in those branches of trade, to have wharves where they could land such articles, and have them remain upon the wharf until they were disposed of. But it must be obvious that they could not afford to pay for such accommodations, situated in any central part of the city. They must, under any circumstances, occupy for such purposes, wharves somewhat removed from the centre of business; and we apprehend that there is but little difficulty in obtaining such accommodations now in the outparts of the city. We could name wharves, where we think that such accommodations could be had, and bulky articles could remain on the wharves without being liable to be disturbed by the press of business. It was in evidence before the commissioners, that wharf accommodations in the city of Boston, were greater than in any of the great commercial cities;—and taking the amount of accommodation into the account, the rates of wharfage were less here than in the other great marts of trade. This evidence was given by some of the very gentlemen who ask for more wharf accommodation. But if there is a great demand for wharf room, that demand can be supplied by the erection of wharves at East Boston, and other parts of the city, without encroaching upon the harbor.

The gentlemen who advocate the filling of the flats, give us

glowing pictures of the prospective growth of the city, and the great increase of our trade, when our present railroads have fully developed their capabilities for business, and when those now in the progress of construction shall have been completed. We accede to all these representations. We believe that the picture has not been overwrought. We anticipate a great increase of the trade of Boston;—and for that very reason, we think the capacity of the harbor should be enlarged, rather than diminished. For that reason, we would arrest a policy, which, if encouraged, would prove ruinous to the harbor, and be subversive of the end which it professes to secure. We have already shown that our commerce has tripled in twenty years, and we see no reason why it may not continue to increase in the same ratio. The Western Railroad has already contributed greatly to the trade of Boston, by connecting our city with Troy and Albany; and when the several lines of railroad through New Hampshire and Vermont, which are now nearly completed, shall connect us with Lake Champlain, and so with Montreal,—and by the Ogdensburgh Railroad with the great lakes of the west, we believe that our trade will receive a new impulse.

The importance of this northern and western trade can hardly be over-estimated. It is a fact well sustained, that for several years past, one half of the vast productions of the valley of the Mississippi, sent to the Atlantic, finds its way to market through the great lakes; and the rapid increase of population in the upper part of this valley, together with the increased facilities of transportation by canals and railroads, which are now being furnished, will turn a larger per centage of this trade into the northern channel; so that the day is not remote when the amount of western productions which reaches the ocean through this northern outlet, will be far greater than that which passes down the Mississippi. In an able report, submitted to Congress in 1847, by Col. Abert, of the United States Topographical Engineers, the commerce of the lakes, meaning the trade only in one direction, is set down at \$62,000,000 in 1846, and the products which arrived at New Orleans from the valley above, at the same sum. It also appears, by the same report, that while the trade down the Mississippi had increased, for the last few years, at the annual average rate of $5\frac{1}{2}$ per cent., that of the lakes had increased at the rate of $17\frac{1}{2}$ per cent. At this rate of increase,

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the commerce of the lakes in 1856, will amount to \$170,500,000. This estimate, Col. Abert thinks perfectly safe. He says: "I see no reason to doubt the correctness of this estimate, and I feel under no apprehension of being reproached for exaggerating, after the ten years shall have passed away."

But in addition to the American commerce mentioned above, there is the trade with Canada, which ought to be taken into the account. The whole section of country, from Montreal to Lake Superior, is one capable of great productiveness, and as wheat land, is not inferior to the corresponding section on the American side of the line. The navigation of the St. Lawrence, always objectionable on account of the distance and the danger, is closed about half of the year. The merchants in Canada are becoming satisfied that they can obtain their supplies more readily, and at a cheaper rate, through the United States than by the way of the St. Lawrence; and when our railroads are completed, we shall be brought into immediate commercial intercourse with our Canadian neighbors. We have already alluded to the productiveness of Canada West. Its exports, in 1848, were about \$10,000,000. Not only the soil, but the facilities of transportation, are such as may justify the belief that their trade with us will increase. The importance of this trade has not been sufficiently considered by the great mass of our people. Montreal, the point at which our railroads are to terminate, is immediately connected with the whole country above. The St. Lawrence, with the canals upon its margin, is navigable at all stages of the water to Lake Ontario; that lake is connected by the Welland Canal with Lake Erie; so that steamers of four or five hundred tons burthen can pass from Montreal into the upper lakes. There is also a more northerly line of communication between Montreal and Lake Ontario, by the way of the Ottawa River and the Rideau Canal, terminating at Kingston. And it is in contemplation to extend a railroad from Kingston, or some place on Lake Ontario, through one of the most productive sections of Upper Canada, to Lake Manitouline;—thus connecting Lake Ontario with Lake Superior, and thereby bringing the copper regions, to all practical purposes, several hundred miles nearer to us than they are at present. All these improvements in Canada, the Ogdensburgh Railroad, the canal from the Sorel River, near St. John, to the St. Lawrence, and the rail-

road connecting St. Johns and Montreal,—must open a direct trade between Boston and the far West.

chux [The policy adopted by the national government, allowing a drawback upon merchandize sent inland to Canada, enables the Canadian merchant to obtain his goods from Europe, through the United States, free of duty;—and the growing dissatisfaction towards the mother country, and the increasing sympathy for us and our free institutions, felt by the people in these Provinces, all tend to bind us together, and to increase our commercial intercourse. From this view of the subject, together with the increase of our population and manufacturing industry, we may fairly anticipate a regular increase of our commerce, and a growing demand for harbor accommodations.

There is another view of this subject, which ought not to be overlooked. By our present warehousing system, a large quantity of merchandize is kept constantly on hand, at Boston, and the merchant at Montreal or Kingston, may, at any time when the St. Lawrence is closed, obtain his supply of merchandize from our city, and this trade, once commenced, will be likely to continue.

1 For this Canadian and western trade, Boston has no rival but New York. Between these cities there will be a brisk competition for this trade; and it becomes us to adopt such a policy as will enable our commercial capital to compete on the most advantageous terms. Experience has shown that the Western Railroad, intersecting the trade of the west at Albany, a point some thirty or forty miles nearer to New York than to Boston, has been able to divert a portion of that trade from New York; and if we are able to compete, in any degree, with the great commercial emporium under these circumstances, we have full confidence in our success when our lines of communication are open to Montreal, where the difference in distance is greatly in our favor.

The geographical position of Boston gives her a decided advantage over her great rival, in a competition for the Canada trade. Samuel S. Lewis, Esq., agent of the English line of steamers, and who, from his position, is supposed to possess reliable information on the subject, testified that we were nearer Europe, by three or four days' sail, than New York,—and by the steamers, were nearer by a day and a half. He estimates

the distance from Liverpool to Boston, by way of Halifax, at 2,876 miles, and from Liverpool to New York, by way of Halifax, at 3,093 miles; and from Liverpool to Boston direct, 2,856 miles, and from Liverpool to New York direct, at 3,073 miles;—making a difference in favor of Boston of 217 miles. The distance from Montreal to Boston, he sets down at 344 miles,—and from Montreal to New York, at 398 miles;—being 54 miles in favor of Boston; so that the distance from Liverpool to Montreal, by way of Boston, is 271 miles less than by way of New York. Though Boston has the advantage in distance, and our railroads will be open when Lake Champlain and the Northern Canal are closed with ice, we must not forget that in New York we shall always find a powerful rival; and hence, it becomes us to afford every facility to this trade, by giving the greatest harbor accommodations in our power.

We have already stated what we believe to be the *rights* of the Commonwealth, in the flats situated between the one hundred-rod line and the channel. We have no doubt but that she has an interest, a vendible property, in these flats, which she may dispose of as she pleases, under the limitations we have stated. And what is true of the flats in Boston harbor, is true of the flats similarly situated, in every other harbor in the State. The question is not local in its character, but is coëxtensive with our coast. It is a subject in which the whole State has an equal interest, and hence the impolicy and injustice of granting these flats to individuals or corporations, without consideration. Neither the riparian owners, nor the city or town within whose territorial limits they may happen to be situated, can claim them in virtue of their proximity. They belong to the State, and are the property of the whole people.

But though the State possesses this property, and the Legislature may dispose of it as they please, they are bound by every consideration of sound policy to make such a disposition of these flats as will best promote the prosperity and general welfare of the community. The wealth of the State consists in the industry and enterprise of its citizens. Whatever excites enterprise, and gives employment to our people, must be regarded as a public blessing. Nor is this blessing a mere pecuniary interest, to be measured by any standard of human coinage.

There is a general prosperity, a growing greatness, a State character, which is not to be overlooked ; and though all this is associated with prosperity in business, it involves something more. It is immediately connected with the intellectual and moral improvement of the people, and with those literary and charitable institutions for which this Commonwealth is already distinguished, not only among her sister states, but in foreign countries. This invaluable interest the Legislature is solemnly bound to guard and promote.

Nor will they, as guardians of the public weal, confine their views to the present condition of things. Any policy which does not look forward at least a century, and consider the wants of the people at the end of that period, is repugnant to the spirit of the age, and so dishonorable to the character of this Commonwealth. While the present wants of the people should be provided for, their future prosperity and welfare should not be overlooked. A system should be adopted, in the disposition of this property, which will meet the wants of the present generation, and at the same time subserve the interest of those who come after us. If the State, actuated by a narrow and parsimonious policy, should dispose of this property to individuals, and put the avails into her own treasury, in a short time this money would be expended, and so be forever lost to the State ; while the property, passing into private hands, would be appropriated, to the perpetual injury of the harbor, and consequent detriment of the commerce of the Commonwealth. But, on the other hand, if the Legislature should hold this property in their own hands, to be appropriated from time to time for the improvement of the harbor and the promotion of commerce, a perpetual benefit would be conferred upon the whole people.

We regard this interest in the flats as a sort of marine investment for the benefit of the State, which should be managed with a sole reference to the commercial prosperity of the whole people. Nor is this a partial or local view of the subject. Though these flats do not belong, as property, to the county of Suffolk, any more than to the county of Berkshire, yet it is the prosperity of Boston which has given a value to this property, and contributed to the general prosperity of the State. And though the disposition of these flats which we have indicated might, in the first instance, be more productive of the interest of Boston

and its vicinity than to the rest of the Commonwealth, its beneficial effects would soon be realized by the people at large. Boston is not only the political but the commercial capital of the State; and whatever increases her commercial prosperity, confers a direct benefit upon the whole people, by creating a market, and increasing the demand for labor, and for every article that labor can produce. The commercial prosperity of the city increases the amount of taxable property in the State, and gives rise to those moneyed institutions and business transactions from which the State derives its principal revenue. This commercial prosperity also gives an impulse to our manufacturing and mechanical industry, thereby creating a market for agricultural products, not only in our cities, but in every village throughout the State. If the Legislature, to realize a present pecuniary advantage, should dispose of all the flats in which the State has an interest, and should suffer them to be filled, to the ruin of the channel, and commerce should desert the city, the withering effects would soon be felt in the business prosperity of the whole State; and our young men would leave our rugged hills and ungenial climate, to seek in other States that employment which their own denied them. If the Legislature, therefore, look to the permanent welfare of the whole people, they cannot, in our estimation, make a better or wiser disposition of them than to dedicate them to the interest of commerce. The treasure is found in the deep; and let it be so appropriated that that deep may bear upon its surface, and bring to our shores, the more useful treasures of which we may all partake. But though we should regard it as unwise, and unjust to one portion of the community, to grant these flats to an individual or corporation, without consideration, yet we would recommend that a liberal policy be adopted; and if any portion of them can be filled without detriment to the harbor, grants should be made upon terms so favorable as to encourage enterprise, and ensure the completion of the work, that thereby an additional amount of property may be created, to sustain, by taxation and otherwise, the interests of the people.

We believe that the growing commerce of the city will, within fifty years, require the utmost capacity of the harbor; and that nothing should be filled which is capable, by excavation, of being converted, at a reasonable expense, into wet docks or

roadsteads. Being strongly impressed with this sentiment, and wishing to test the practicability of excavating all that section of the flats below the one hundred-rod line, and east of Fore Point Channel, the Commissioners employed Wm. W. Parrott, Esq., an engineer of known experience and ability, to sound these flats to the depth of twelve feet, in order to ascertain the character of the material, and the practicability of excavation. By his report and plan, which are herewith submitted, it appears that there is no ledge, or other obstruction, which would render excavation impracticable or even difficult; and that the whole can be done at a small expense, compared with the great advantages which would result from such an improvement.

Having given our views upon the general policy of the State in relation to these flats, we will now state, more specifically, the plan we would propose.

1850's plan We recommend that a straight line be drawn from the southeasterly corner of Emory's wharf, south sixty-five degrees, and forty-five minutes east, to low water mark, in the vicinity of the public institutions at South Boston. The said line, drawn on the map herewith submitted, cuts the point where the line of the shore owners and the low water line intersect each other, as seen on said map. The line thus described should be the extreme distance from the shore to which any wharf should be allowed to extend. This line will not interfere with the rights of any of the shore owners, and will save to the harbor about 450 acres, which Mr. Cary's line would allow to be filled. And even the line we propose, cuts off about 30 acres belonging to the State, lying below the line either of low water or of the shore owners. We have adopted this line, not that we desired to reduce the capacity of the harbor, but to avoid the sinuosities of the shore and water lines, and to present a straight and uniform front. And, besides, if the flats below the proposed line should be excavated, and any portion of them be converted into wet docks, the space between this line and that of the riparian owners, would allow the flow of the tide, and secure to them their water rights, and so avoid all difficulty on that score,—which we regard as a point of great importance. Or, if the State should allow the abutters to fill down to this line, it should be done only in consideration of their relinquishing their water rights, or of rendering some equivalent, by excavation or

otherwise. The line we have designated is to commence on the easterly side of Fore Point Channel, on the line which has been established by law; but if it shall be found, on judicial investigation, that the Boston Wharf Company may lawfully extend their wharf across the line we have laid down, then the line proposed shall commence on the easterly side of said wharf, and pursue the course before designated.

The portion of flats we would thus set apart for harbor accommodations, may be excavated so as to allow vessels of almost any size to approach the wharves on Fore Point Channel, and on the whole marginal line in front of South Boston. This would add vastly to the business capacity of the city and harbor. Or, the space thus set apart may, from time to time, as the wants of commerce may demand, be appropriated to wet docks, where the largest vessels may be accommodated. The subject of wet docks has attracted the attention of the commercial world for a long period, and their utility has been fully established, especially in all harbors where there is a large rise and fall of the tide, and where the currents are rapid. Without wet docks, London and Liverpool would suffer severely. The first wet dock in Great Britain was constructed at Liverpool, in pursuance of an act of Parliament obtained in 1708. At this period Liverpool was but an inconsiderable town, and the accommodations she has derived from her wet docks, have contributed more than any other cause to the rapid increase of her commerce, population, and wealth. A second dock was opened about the middle of the last century, and since that period many others have been added,—some of them on a very magnificent scale, and furnished with all sorts of conveniences. The wet docks of Liverpool, now completed, contain a water area of about 200 acres; and the Birkenhead docks, now nearly completed, will greatly increase the amount of dockage in that growing city. The wet docks at London were not commenced so early, owing probably to the fact that all the land had been appropriated, and could not be obtained for this purpose, except at an enormous expense. The increasing demand for wet docks, and the success of the undertaking at Liverpool, compelled London to adopt the system; and she has now more than 200 acres of water area enclosed within her various docks. These were all constructed by companies, and have cost the corpora-

tions the vast sum of \$49,000,000. But notwithstanding this immense outlay, these docks have generally been profitable as investments, having in some cases yielded an annual interest of ten per cent. And though some of them have been much less productive, as a whole they are now yielding five or six per cent. a year. The importance with which this system was regarded in London, may be seen by the fact, that the London Dock Company, in order to carry out their plan, were compelled to purchase a considerable portion of seven parishes, and to take down one thousand three hundred houses.

New York has also adopted the system, and has enclosed within the "Atlantic Docks" about forty acres of water; and an effort is now being made to erect a sea wall in the Hudson, parallel to the shore, and at a sufficient distance from it, to allow docks to be constructed between the wall and the shore, sufficient to accommodate a vast amount of shipping. While such efforts have been made and are still being made, in other commercial cities, it becomes the city of Boston to do something to secure her portion of trade; and especially should the movements in New York induce the people of Massachusetts to take active measures to build up our own commercial capital.

* | The flats in the harbor of Boston seem admirably adapted to the purpose of wet docks. In the first place, they are situated near the centre of business, which cannot be said of the Atlantic Docks in New York. Nor is it necessary to destroy a large amount of valuable land covered with buildings, as was the case at Liverpool and London. With us, the flats, at present, are useless; and, by converting them into wet docks, a large amount of land will be created, suitable for warehouses. Such docks would answer the double purpose of land and water,—giving an additional amount of wharf-room and storehouses, and at the same time affording the largest accommodation for the shipping in the harbor. Besides, that portion of the harbor is somewhat exposed to easterly winds, and the sea wall enclosing the docks would act as a breakwater, and so protect, not only the ships in the docks, but those in the upper portion of Fore Point Channel. Nor would the advantages be confined to the harbor. By excavating the flats in front of Fore Point Channel, all that portion of the city from India wharf to Summer Street wharf, would be brought directly to deep water, and the

value of property in that part of the city would be greatly increased.

Another advantage resulting from some such improvement in this part of the harbor is this:—it would open a more direct communication between our railroads and deep water. The Lowell, Fitchburg, Maine, and Eastern railroads enter the northern part of the city, and can find deep water in that region of Boston or Charlestown, or, by the Grand Junction Railroad, at East Boston. But the Old Colony, Worcester, and Providence roads enter the city in the southerly section, and hence would be accommodated by a connection with deep water on Fore Point Channel. The prospective growth of our inland trade, makes it highly important that improvements be made in every part of the harbor, which will facilitate that valuable part of our trade.

The importance of some improvement of these flats will at once appear, when we consider that fifty years hence our commerce will be seven or eight times as large as it is at present, and that our shipping will have increased in the same proportion. Besides, the warehousing system, which will, in all probability, become the established policy of the country, will not only make Boston a port of great importance, but will require a large amount of warehouse accommodation. The ranges of warehouses on the margins, and between the docks, would be admirably calculated for such purposes: goods entered for exportation could be taken directly from the vessel to the warehouse, and when sent abroad, could be put directly on board the vessel, with the least possible trouble to the importer. The government are now paying enormous rents, (\$48,600 a year,) for warehouses, and with the increase of business, other warehouses must be rented. This of itself holds out a strong inducement to enterprising individuals to embark in some such project.

But if it be thought that the wet dock system would be too expensive, a sea wall of a cheaper character might be constructed, enclosing certain portions of the flats, which, being excavated, would furnish a basin for the protection of shipping, which would answer many of the purposes of a wet dock. But whatever system may be adopted, great care should be taken to preserve, as far as possible, the capacity of the harbor.

*into wet docks
on 4 point channel*

We have requested Mr. Parrott to lay down upon the map, a general outline of two wet docks, which contain a water area of about fifty-six acres, and would be sufficient to accommodate several hundred vessels,—affording at the same time the most ample room for wharfage and warehouses. Our object being only to present the general outline, we furnish no detailed plans of the construction. That is a matter to be decided upon when the general policy shall have been adopted. It will, however, be seen by the outline drawn upon the plan, that a space of seventy feet in width, in the centre of the embankment around and between the docks, is set apart for warehouses, with a space of ninety feet in width on each side, or between these ranges of warehouses and the water, for a street and for other business purposes,—which will be amply sufficient to accommodate the public. The space east of the two docks designated may be kept open for the anchorage of small vessels, for which it is well adapted; or if the commercial wants of the city should require, two additional docks could easily be constructed on this portion of the flats. By a general system of this character, the business capacity of the harbor could be greatly increased, and the commercial growth of the city be facilitated.

Nor do we, in these recommendations, abandon any of the views we have expressed in other parts of this Report. We have expressed our fears that the filling up of South Bay would ultimately prove ruinous to Fore Point Channel; and that a sea wall upon the eastern margin of the channel would tend to hasten that event. But the erection of wet docks bordering upon that channel, is not liable to the same objections which could be urged against the proposed sea wall. In the first place, we do not propose to have these embankments for wet docks extend down so far upon the channel, by several hundred feet, as the proposed wall. We have also, spoken of wet docks only in connection with the excavation of the flats, and, if need be, the deepening of Fore Point Channel. Nor have we recommended any such improvement, until the business of the city should be such as to justify the undertaking:—and when the commerce of the city demands such works, it will so increase the business and the wealth of this portion of the city, that they could well afford to keep Fore Point Channel open by dredging. The dif-

ference between the plan we recommend, and that of a sea wall, is this:—the proposed docks would not extend so far as the proposed wall, and of course would not cut off so much water from the channel. The docks would bring more business to this part of the city than the sea wall, and hence would create more property there, to keep the channel open, in case it should be inclined to fill. There is also, this important difference in the two cases:—the contemplated improvement connected with the sea wall, would consist in converting the flats beyond it into dry land,—while the improvement connected with wet docks, would consist in converting these flats into deep water. If the former plan should ruin Fore Point Channel, it would give no accommodation to the shipping, as a substitute for that channel: but if the latter plan should ruin the channel, it would afford other and better accommodations for the shipping than they now enjoy.

But whatever plan should be adopted, great care should be taken lest private interest should carry such improvements too far forward towards the main ship channel, in the hope of obtaining all the flats in the rear. Efforts will also be made to obtain a bridge across Fore Point Channel, and an avenue across the flats to South Boston, for the ostensible purpose of opening a direct communication between South Boston and the heart of the city; but the Legislature should look well to all such enterprises, and, before they make any such grant, be sure that public good rather than private interest, demands it. Whenever the amount of travel shall demand another avenue between Boston and South Boston, the flats will be wanted for commercial purposes: and when they shall have been excavated from Fore Point Channel to the main ship channel, the business on Fore Point Channel will be too great to be interrupted by a bridge, at any point below Emory's wharf, which is nearly in a straight line from the centre of Boston to the centre of South Boston. This would also fall directly upon the proposed street, in the rear of the wet docks as shown by the plan of said docks, drawn by Mr. Parrott, which plan and Report are herewith submitted.

The commissioners would also call the attention of the Legislature to a line which has been recommended by former boards which have reported upon the subject, but on which

the Legislature have taken no action. The line is drawn upon the plan of the harbor, and commences at Wales' wharf, and terminates at Fort Hill wharf. This line would straighten Fore Point Channel, and the quantity cut off would be so small as to produce no appreciable effect upon the harbor. On the contrary, we believe, that if this line were adopted, and the wharf owners were permitted to extend their wharves to this line, and were required, as a consideration, to remove the bar in front of Summer street wharf, and to excavate the flats in front of this line, up to the commissioners' line on the other side of the channel, the harbor would be improved, rather than injured. We recommend the adoption of this line, on such conditions as the Legislature, in their wisdom, may think meet.

There is another considerable portion of flats in Mystic River, between Malden and Chelsea bridges, a grant of which has been asked by the citizens of Charlestown. This tract contains about one hundred acres. These flats not only belong to the Commonwealth, but their title is embarrassed by no water rights of the riparian owners. By the law of 1641, no proprietor was allowed to cross any creek or channel; and, as there is a channel on each side of the river, and these flats are situated between the channels, they cannot legally be claimed by the shore owners, on either side of the river. The commissioners are inclined to the opinion, that these flats might be filled, and the navigation of the river thereby improved. They were, however, inclined to believe, that the plan proposed, extended too far below Chelsea Bridge into the channel. And they had some apprehension, that confining the flow of the water to the Chelsea shore, might produce an eddy, and cause a deposit on the flats near the navy yard, to the injury of that establishment, and of navigation in that part of the harbor. But if the Legislature, in their wisdom, should see fit to make this grant for sufficient consideration, they should provide that the material to fill the flats to the height of extreme high water, should be taken from the marshes above, between high and low water marks, so that the river should be capable of receiving and discharging as large a quantity of tide water as at present. The materials should be taken under the direction of some skilful person, appointed by the government, who should see that it be taken, not only between high and low water, but at such points,

and in such a manner, as to improve the navigation of the river; and that the parts excavated, be so situated as not to be liable to fill up with sediment. The company should also be required to excavate the flats below their embankment to the channel,—and to keep the flats, the channel of the river, and the marshes so excavated, open to a given depth. These precautions appear to the commissioners to be indispensably necessary to the safety of the harbor, and the Legislature would be false to the trust reposed in them, to make a grant without securing the performance of these, or similar duties, in the most ample manner.

The attention of the commissioners was also called to that portion of the flats lying within the Mill Dam, west of Boston Neck, called “Back Bay.”

In the year 1814, a charter was granted to the Boston and Roxbury Mill Corporation, with very extensive powers; among which, were authority to build a dam from Charles street, at the westerly end of Beacon street, in Boston, to the upland at Sewall’s Point, so called, in Brookline.

Also, to build a dam from Boston to South Boston, not northerly or easterly of South Boston Bridge. The last named dam not having been built within a term limited by a subsequent statute, the power is extinct.

The dam first named having been constructed, the water of the basin formed by it, no longer flows and reflows with the tide in its natural course, and is not deemed to be of any considerable value in the scouring process.

The purpose for which the power was granted to said company, and to the Boston Water Power Company, incorporated in 1824, in whom the interest within the Basin is now vested, was, to create a reservoir of the tide waters for hydraulic uses.

The power granted to these companies, has vested in them no title to land in fee, but only an easement to flow the same for the uses and purposes therein named. Applications have been, by said companies, made from time to time, for further legislative grants, and among the subsequent acts passed in their favor, was one in 1823, entitled “an Act to authorize the Boston and Roxbury Mill Corporation, to *widen their dam*,” by extending it one hundred feet on the northerly side thereof, upon the

flats and tide waters, where it can be done without interfering with the rights of *individuals*, or other *corporations*, for the purpose of forming landing places, making wharves, erecting storehouses, and *other necessary buildings*.

A subsequent Act, of 1824, extended this right of filling flats and tide waters, to two hundred feet, "and to erect sheds and buildings thereon, for the *accommodation of travellers and others*." By these grants, a considerable quantity, (estimated at over thirty acres,) of land, north of the Mill Dam, may be filled to the exclusion of the tide waters. The limitations in the use, raise a question of some ambiguity, what is meant by "*other necessary buildings*," and what accommodation for "travellers and others," is intended; and whether the "sheds and buildings," may not be hotels for "travellers," and palaces for "others." When, however, the space is once filled, the effect on the tide waters is not ambiguous; and there is little doubt but that the result will be, in process of time, the creation of so much land of a very valuable character, outside of the basins, for all purposes.

The basins, called full and empty basins, above the principal dam, contain a tract of about eight hundred acres, including portions now occupied by the Providence and Boston, and the Boston and Worcester Railroad Corporations, which have been authorized from time to time to make locations over it, and portions that have been filled and converted into dry land.

The use of the water as a hydraulic power, has proved less beneficial to the public, and to the enterprising projectors, than was anticipated; and it is probable that they will look for their ultimate profit, to the use of the territory as land, if permitted to do so by the Legislature.

The creation of such a power for hydraulic use, was doubtless deemed an object of public utility and importance, as well as the public highway and avenue into Boston, contemplated by the charter; and to effect these objects, very liberal grants were made. They were authorized to debar the tides from an area of eight hundred acres in their regular flow, and to close Fore Point Channel, and convert the whole South Bay into a mill pond.

With the views now entertained of the importance of the tide waters in the preservation of the harbor for commerce, such a

grant would not be made : and it is fortunate that those powers were exercised only in part.

The existence of the dam, as now made, has, however, cut off the flats and tides in the basins from their natural use and action. They are lost for every valuable purpose to the harbor, and may be filled and made into dry land, without public injury,—and in that use, their value is very great. The Water Power Company have already availed themselves of powers derived from riparian proprietorship to fill considerable tracts,—to the extinction, to that extent, of the water power. They have also, by contract or compromise, permitted the reservoir to be abridged to a large extent, by the city of Boston, who seem never to have hesitated to give precedence to the proprietary right of making land for sale, over the commercial value of flats and tide waters to the harbor. The fillings are believed not to have always stopped at the riparian proprietary limit of low water mark, or one hundred rods from the shore.

It is for the State to determine whether, if this basin is to be diverted from its use as a hydraulic power, the State title, which exists to its full extent, subject only to that use, shall be neglected, and given up to individual and corporate proprietors, without any consideration,—or for what consideration.

Besides the Boston Water Power Company, the city of Roxbury and one individual appeared before the commissioners, to assert proprietorship in a large portion of the land enclosed in the empty basin; and their claims, as made by them, are hereto annexed, marked K and L.

But they failed to satisfy the commissioners, that they have title to any land below the proprietary line of 1641. But while they have no hesitation, in the opinion here expressed, they are aware that some of the questions raised by the claimants, belong exclusively to the judicial tribunals; and they, therefore, only feel warranted by the duties with which they are charged, to call the attention of the Legislature to the character of the rights there existing.

If they are deemed important to the State, the most proper course seems to be, that a commission be appointed, or that the law office of the Commonwealth be required to make the necessary investigations, and to propose such action on the part of the State as shall protect its just rights.

If the grantees of the water privilege continue their present use, the State has no election. Their faith is pledged, and will not be violated. In such case nothing can be done by the State, but to set up suitable landmarks, to preserve evidence of the original shore marks, and prevent gradual and unauthorized encroachments.

But if, as the commissioners believe to be the fact, the time has already come, when the value of the land is far greater than the easement of the water right, and the grantees of the latter, desire to change their interest in them, to a considerable extent, a proper settlement would seem to require a compromise on equitable terms, between the State and the Water Power Company, and any other parties who may be found to have rights there, with a view to the most profitable development of that valuable property.

In conclusion, the commissioners would respectfully recommend to the Legislature, to retain in their own hands, all such portions of these flats as are not imperiously demanded by the present wants of the community. Let not the plea that the flats are wanted for building purposes, or that the harbor is ample to meet the present and future wants of commerce, induce the Legislature to grant to individuals or corporations what, at no distant day, must be required by the public for the accommodation of trade. Nor would it, in our judgment, be wise to surrender these flats, or the guardianship of them, to the city of Boston, or any other city or town in which they are located. It has been recommended by one commission, to surrender them to the city of Boston,—which, it is said, having the most direct interest, would appropriate them in the wisest manner for the interest of commerce. But we should fear that the interest of Boston would be too direct for a wise disposition of this property. The policy which this city is now pursuing, in filling up South Bay, after every board of commissioners has reported that such a course would be ruinous to certain portions of the harbor, leads to the apprehension, that she might not prove the best guardian of the commercial interests of the State.

If these flats were granted to any of these cities, to be appropriated for the public good, there would be great danger that local considerations would control the manner of their disposal. The question of their disposition would soon become a matter

of party contest, and there would be danger that present interest would prevail over public considerations, and that grants of an impolitic character would be made. Grants, looking more to immediate income, than to future growth,—more to private than to public considerations,—more to local advantage, than to the general welfare.

These flats being the property of the whole people,—and the members of the Legislature coming from all parts of the Commonwealth, and knowing the wishes of their constituents,—we know of no body so well qualified to exercise a wise guardianship over this great interest as the General Court. The property is in their hands; and there we may safely trust it; knowing that in them, we have a tribunal as independent and impartial as the lot of humanity will admit.

All which is respectfully submitted.

JOHN M. WILLIAMS,
DAVID CUMMINGS,
THOMAS HOPKINSON,
GEORGE S. BOUTWELL,
CHARLES HUDSON.

The commissioners append the following documents relating to the subjects of their inquiries, for the consideration of the Legislature, viz. :—

1. A statement of the imports and exports of the city of Boston during the years, from 1830 to 1849, inclusive, marked A.
2. A statement of the arrivals and clearances at the port of Boston during the years, from 1830 to 1849, inclusive, marked B.
3. Report and plan of soundings, &c. on South Boston Flats, by W. W. Parrott, marked C.
4. Report and plan of wet docks, &c., by W. W. Parrott, each marked D.
5. A statement of Samuel S. Lewis, marked E.
6. A statement of Winslow Lewis, marked F.
7. A statement of Thomas Lamb, marked G.
8. A statement of Z. Jellison, marked H.
9. A statement of the supposed title of the city of Roxbury, to land in the Back Bay, marked I.
10. A statement of the supposed title of David Sears, to land in the Back Bay, marked K.

A.

Imports of Foreign Merchandise in American and Foreign Vessels, in the Port of Boston, from the 1st of January, 1830. to the 31st of December, 1849, inclusive.

Year of							
1830,	.	.	.	.	.	.	\$ 8,348,653
1831,	.	.	.	.	.	.	13,414,309
1832,	.	.	.	.	.	.	15,760,512
1833,	.	.	.	.	.	.	17,853,446
1834,	.	.	.	.	.	.	15,614,720
1835,	.	.	.	.	.	.	19,038,480
1836,	.	.	.	.	.	.	25,897,955
1837,	.	.	.	.	.	.	15,027,842
1838,	.	.	.	.	.	.	13,468,465
1839,	.	.	.	.	.	.	18,409,186
1840,	.	.	.	.	.	.	14,122,308
1841,	.	.	.	.	.	.	18,908,242
1842,	.	.	.	.	.	.	16,127,447
1843,	.	.	.	.	.	.	20,662,567
1844,	.	.	.	.	.	.	22,141,788
1845,	.	.	.	.	.	.	21,591,877
1846,	.	.	.	.	.	.	21,284,800
1847,	.	.	.	.	.	.	38,279,651
1848,	.	.	.	.	.	.	23,388,475
1849,	.	.	.	.	.	.	24,117,175
							<hr/>
							\$383,457,898

Exports of Domestic and Foreign Goods, in American and Foreign Vessels, from the Port of Boston, from the 1st of January, 1830, to the 31st of December, 1849, inclusive.

Year of	Domestic goods.	Foreign goods.	Total.
1830, . .	2,488,901	2,691,277	5,180,178
1831, . .	2,820,953	3,076,129	5,897,082
1832, . .	3,438,021	6,569,797	10,007,818
1833, . .	3,509,379	4,552,846	8,062,225
1834, . .	3,705,071	4,029,924	7,734,995
1835, . .	4,774,732	3,981,960	8,756,692
1836, . .	3,812,578	4,869,863	8,682,441
1837, . .	4,244,509	3,591,761	7,836,270
1838, . .	4,440,891	2,595,991	7,036,882
1839, . .	4,507,816	3,505,720	8,013,536
1840, . .	5,146,779	3,268,535	8,415,314
1841, . .	5,892,672	3,479,940	9,372,612
1842, . .	4,750,851	2,475,233	7,226,084
1843, . .	5,081,744	2,283,968	7,365,712
1844, . .	5,843,231	2,451,495	8,294,726
1845, . .	6,136,273	2,634,580	8,770,853
1846, . .	6,481,802	1,764,022	8,245,824
1847, . .	8,760,954	3,357,643	12,118,597
1848, . .	7,546,472	2,455,347	10,001,819
1849, . .	6,780,329	2,063,645	8,843,974
	<hr/>	<hr/>	<hr/>
	100,163,958	65,699,676	165,863,634

B.

*Statement of Foreign and Coastwise Arrivals and Clearances
at the Port of Boston, from January 1st, 1830, to December
31st, 1849, inclusive.*

Year.	ARRIVALS.		CLEARANCES.		
	Foreign.	Coastwise.	Foreign.	Coastwise.	
1830,	642	2938	567	2216	
1831,	766	2946	684	2298	
1832,	1064	3538	943	2611	
1833,	1066	4024	939	2848	
1834,	1156	3527	1002	2477	
1835,	1302	3879	1225	2900	
1836,	1452	4844	1326	2927	
1837,	1591	4000	1381	2506	There are a large number of vessels employed in the coasting trade, which neither enter or clear at the Custom-house. The disparity between the arrivals and clearances is owing to this fact. The number can confidently be stated at 4000 each way, yearly.
1838,	1313	4018	1124	2901	
1839,	1553	4251	1381	2803	
1840,	1628	4406	1362	2815	
1841,	1791	4574	1581	2841	
1842,	1738	3862	1540	2379	
1843,	1716	4974	1628	2484	
1844,	2174	5909	2000	5009	
1845,	2305	5631	2200	3058	
1846,	2000	6732	1998	2712	
1847,	2756	7125	2526	3198	
1848,	3012	6002	2857	3239	
1849,	3111	6156	3040	3112*	

* The difference between the arrivals and clearances, arises from the fact, that very many of our coasters enter, but do not clear at the Custom-house.

C.

*To the Hon. J. M. Williams, Chairman of the Commissioners
on Boston Harbor.*

SIR,—At the request of Messrs. Hudson and Boutwell, I have examined the point of flats at South Boston, for the purpose of ascertaining if any ledge existed beneath the surface of earth, or other hindrance to excavation to the depth of twelve feet, at low water, and respectfully submit the following report:—

The part indicated by the gentlemen, as being the portion to be examined, is the triangular part included between the red line, marked on the plan I-XVIII., and the point of the channel. It was my intention to have sounded the whole of this portion in squares of two hundred feet, and the work was commenced with that view, but the weather was so severe and unfavorable, that we were obliged to take another course. On examination, we found slate ledge at the corner of F. and Third Streets, and in another place, near Monk's Timber Dock. Assuming that this is the same stratum, the line marked I-XVIII. will cross its direction nearly at right angles, and if it extended to the point of the flats within twelve feet of low water, we should strike it upon this line.

This cross section was carefully sounded, but we found no ledge or indications of any, at the depths we were able to reach with the sounding rods. In a few places, we found hard gravel, and could not sound so deep as we wished, but in the other parts we got to a sufficient depth, to show that the ledge, if any, lays more than twelve feet below the present surface.

Two lines at right angles with this base line, were sounded with like result, and having found no rock, I concluded to sound a line in shore, the base line, and directly across the "slate ledges," in order to judge of their extent and dip. The results of this examination are shown on the profile, marked c. d.

In addition to these lines, several soundings were taken at independent points with the same result.

In no case did we find rock out side of the line I-XVIII., and but once on the line c. d., and that was in the immediate vicinity of the small ledges near Monk's Dock.

The general character of the ground is a stratum of mud, or hard pan, from three to seven feet deep, over a bed of blue clay. Generally towards the parts covered at low water, the mud is found, on the parts bare at low water, the hard pan and gravel. The stratum of clay is much softer and sticking upon the west side, and harder upon the eastern side, but is not so hard as to offer any obstruction to excavation if desired.

In making inquiries, I heard of several vague rumors of ballast lighters having been sunk on the edge of the channel, and that some vessels carrying stone, had grounded on the flats, and thrown over their deck load, which was suffered to remain ; but I was unable to ascertain the position of their deposits.

It is probable that some slight obstructions of this kind may be found in making the excavation.

I regret that the season was so far advanced, that we could not make so minute an examination as was first intended, but I think sufficient evidence has been obtained, to show that no slate ledge or other notable obstruction to excavation, exists in any part of the flats, embraced in this examination, within twelve feet of low water.

Upon the harbor commissioners' plan of 1847, there is a ledge marked near "Slate Ledge Wharf." Mr. Tewksbury, the harbor master, has kindly examined this for me, and found some slate and *granite*. He thinks it a bar and not a ledge. It is probably the remains of some small island, or some deposit of ballast, as the slate ledges at South Boston, with their apparent dip and direction, could not show themselves there.

I have made some inquiries, for the purpose of making an approximate estimate of the cost of this work, and find that the usual rates are two dollars and fifty cents (\$2,50) per square, of eight yards, which would make not far from thirty cents per cubic yard : but to cover contingencies, thirty-seven and a half cents per yard, I think, would be an ample price. The area of the triangle before described, will be four hundred and eighty thousand square yards, which, excavated to the depth of four yards, will give an aggregate of about two millions of yards, and, at the price above mentioned, an aggregate cost of seven hundred and fifty thousand dollars.

The cost of filling in, the past season, paid by the city for their work near Cambridge street, (the New Jail,) has been two dol-

lars and fifty cents per square, or thirty cents per yard,—on the south end lands, twenty-eight cents per yard for gravel, hauled by railroad from the country. It will be safe to assume, that if the area within the line of one hundred rods, marked upon the plan, should be filled up, it would cost, at least thirty cents per cubic yard for earth filling.

I return herewith, as making part of this report, the field notes taken, and a plan, made from the commissioners' plan of 1847, with the direction and length of each line marked upon it, with the corresponding profiles reduced to the common plain of reference, the coping of the Dry Dock at Charlestown.

Your obedient servant, .

WILLIAM P. PARROTT, *Engineer.*

BOSTON, *December 14th*, 1849.

D.

To the Honorable J. M. Williams, Chairman of the Commissioners on Boston Harbor.

SIR,—At the request of the Hon. Mr. Hudson, I have prepared a sketch of the proposed docks at South Boston.

The brief period of time allowed me would not suffice to go into any details, or even allow of a mature and thorough investigation. I have, therefore, made merely a sketch, including, as far as I was able, those general principles, which appear to me should govern any system, which may be proposed for making this part of Boston Harbor available for commercial purposes.

The first, is a proper shelter for vessels laying at the wharves in this part of the city, either for loading or unloading, or in ordinary. The need of such shelter arises from the power of the wind and sea, from the direction of E. N. E. to S. E., and which is too great, either for the convenience or the safety of vessels. This can be accomplished only by a wall or breakwater, at a suitable distance from the wharves.

The second principle is, to afford as large a space as practicable (having a proper view to other interests, and the increasing

amount of shipping,) for the accommodation of vessels, either coming for a harbor, or for discharging or taking in cargo.

And the third is, to make at the same time, in connection with the work, as large a space for warehouses and wharves, as may be considered advisable. This is in order to afford space for the the cargoes for the vessels, and to diminish the cost of preparing the basins.

All these principles may be combined with great advantage, both to the interests of the ship owner, to the merchant, and to the public at large.

The sketch I propose, is as follows:—To build on the lines marked upon the plan, a double wall;—the foundation to be nine to twelve feet below low water;—the walls to be two hundred feet apart, and to be filled with the earth inside of the basins formed by these walls, which are to be excavated to nine feet below low water at the walls, and twelve feet below, in the middle of the basins. Access to the basins or docks, will be by entrances as marked on the sketch,—one hundred feet wide each.

This arrangement will give two basins, containing about thirty acres each, and will accommodate easily, six hundred vessels of the class commonly engaged in the commerce of this port, besides lighters and other small vessels.

The length of wharf line, eight thousand two hundred and thirty feet, or one and one half miles, nearly, and the width of two hundred and fifty feet, will afford ample accommodation for streets, warehouses and landing places.

This system may be continued to any desirable extent, as shown by the dotted lines upon the plan. In making this arrangement, I have had in view the intention of constructing basins, in and out of which, the tide might flow at all times. Should it be considered better hereafter that wet docks should be substituted in their place, it may be done without any alteration of the principles:—but this question, as well as the details, and cost of construction, cannot be settled while the whole project is in so indefinite a shape. But thinking that the following memoranda may be some assistance to the better understanding of the whole matter, I have annexed them to this report. They have chiefly been taken from the large volume of the Public Works of Great Britain, published by Neale, in 1838, London, McCulloch's Commercial Dictionary, Knights' London, and Talford's Works.

The data, I had immediately at my disposal, related more to the details of form and construction than to the cost.

The first inclosed dock, at Liverpool, was built A. D. 1702. The first at London, 1800.

The amount of capital stock of some of the London docks is as follows :—

West India Docks, original stock, £500,000, afterwards increased to £1,200,000.

East India Docks, £623,000.

London Docks, £3,238,000, with an additional sum of £700,000, borrowed. Total, £3,938,000.

St. Catherine's, £1,352,800, afterwards increased by loan of £800,000. Total, £2,152,800.

LONDON DOCKS. The amount paid for land and damages, cannot be ascertained, but was very large. £700,000 was borrowed for this purpose alone, and a large part of the capital of more than £3,000,000 was used for this purpose.

THE SIZE AND CAPACITY, AND DISTANCE FROM CENTRE OF BUSINESS. West India Docks, whole capacity, two hundred and ninety-five acres. Water, fifty-five acres :—will accommodate six hundred vessels, from two hundred and fifty to five hundred tons, and is three and one half miles from the centre of business.

EAST INDIA DOCKS. Whole area of water, about thirty acres, three of which are for the entrance dock : will accommodate about three hundred vessels, of the class above named : is four and one quarter miles from the centre of business.

LONDON DOCKS. Whole area, seventy-one and three quarter acres : area of water twenty-eight acres, will accommodate two hundred and eighty vessels, of the same class : is one and two thirds miles from the centre of business.

ST. CATHERINE'S. Whole area, twenty-four acres, eleven of which are covered by water, will accommodate about three hundred vessels, of the class before mentioned, and is about one mile from the centre of business.

COMMERCIAL DOCKS. Whole area, forty-nine acres ; water area, eighty-eight acres : will accommodate three hundred and eighty vessels, and is about two and one half miles from the centre of business.

The rise of the spring tides is twenty-four feet six inches, neap tides, twenty-one feet eleven inches.

The rise of the spring tides in Boston, is thirteen and one half feet, and neap tides six and one half feet. Mean rise and fall, ten feet.

FORM OF THE DOCKS.

St. Catherine's is irregular in its form. Mr. Talford says in his report, that it was occasioned by the form of the site, but that it was considered as an advantage at last, as affording more quarry room.

The London Docks, West and East India Docks, are all parallelograms of different proportions.

The Commercial are irregular, probably for the same reasons as St. Catherine's.

This is a matter, however, of small importance, and the form must necessarily conform to the site of the work and its uses.

The cost of the London docks was much increased by the great price paid for land damages to adjacent estates, and quieting of vested rights, and it appeared to me worthy of notice, that it was nearly one hundred years after the first dock was built in Liverpool, that a similar work was commenced in London:—that, after the West India docks were built, it was evident that it was expedient to incur this vast expenditure of money, to increase this accommodation to vessels trading to the Thames.

It is probable that the cost of work of similar character here would bear no comparison with those above mentioned, both for the reasons before recited, as well as the mode of construction, which would be different, for the reasons that much work is put into the masonry of those docks for the purpose of ornament, and also, that the head of water held by the docks here, would be much less, and consequently require less thickness and strength in the walls.

The average distance from the centre of business of the proposed docks, is about one mile, contrasting favorably in this respect, with the docks in other seaports.

I cannot refrain from again expressing my regret, that I have not time to give this subject the examination and consideration it deserves, but hope that this sketch may be of assistance to

you, in directing the attention of the public to a matter of so much importance to the continued and increased prosperity of this city and the Commonwealth.

Your obedient servant,

WILLIAM P. PARROTT.

Boston, *December, 27th*, 1849.

E.

STATEMENT OF SAMUEL S. LEWIS, ESQ.

Boston Harbor is constituted of channels, through which the tide flows four times every twenty-four hours, into and out of Charles and Mystic Rivers, Chelsea Creek and South and Back Bays. This influx and reflux of the tide scours the channels. The immense volume of water constantly passing in and out of these reservoirs, is the only means of preserving the channels and the harbor; cut them off or change the currents, and you may, and probably will, destroy the harbor. With all our precautions, we are not able to prevent the channels filling up and narrowing. My own experience shows this conclusively. In 1840, I excavated and dredged docks for the British steamships, and deepened the water outside of the docks, to a sufficient depth to enable the steamers to enter and depart from the docks at low water; since then I have been obliged, in order to maintain the depth of water necessary to keep afloat the steamers, to dredge out the docks and the entrance to them twice, the last time, the present season, I have excavated, and taken away *seven hundred squares* of mud, at a cost of over two thousand dollars. The East Boston Ferry Company, have also, been obliged to dredge out their slips, four times since the ferry was established, and the wharves in Boston proper, are continually going through the same process.

These facts, to my mind, are conclusive, that the channels narrow, the sediment which is carried up and down with the tide, adheres to the sides of the channel, where the current has its greatest force, narrowing the same, and forming spits into the channels. More especially is this the operation, after the tide passes through the narrower part of the channel, and spreads

itself into the broad part of the harbor. The velocity of the current is *then lost*, and the sediment carried with it settles. The effect of extending a wall any considerable length on the easterly side of Fore Point Channel would, in my opinion, be the means of injuring, if not eventually destroying the harbor, as it would form a canal, or narrow passage for the water to pass into and out of South Bay, increasing the velocity of the tide by forcing the water, which supplies that reservoir, through this narrow pass. The increased velocity of the tide would take down with it the sediment from the bay above, to a point nearly opposite India and Central Wharves, where it would meet the tide from Charles and Mystic Rivers and Chelsea Creek, causing eddies that would whirl the sediment collected from all these sources, into the broad part of the harbor, there losing the current, it would deposit directly across the channel, filling up and forming spits in the main channel, above the upper middle, where at low water we have now only seventeen feet. Not enough for large steamers or ships to enter or depart, if my experience and views are correct, it is a *dangerous experiment* to allow a sea wall extended much on the easterly side of Fore Point Channel, certainly not farther *than Kneeland street*.

The commerce of Boston is continually and rapidly increasing, and we shall soon require more, and enlarged harbor accommodations. The arrivals, foreign and domestic, are now fourteen to fifteen thousand annually, and this does not include a large amount of small craft, fishing vessels and others. The increase of our commerce up to the present time, has been almost wholly in our importations, which the following table, for fifteen years, from 1832 to 1847, will show :—

FOREIGN IMPORTS.

	<i>Boston.</i>	<i>New York.</i>
1832,	\$15,760,572	\$50,995,924
1847,	47,110,761	96,036,257
Increase,	\$31,350,189	\$45,040,333

EXPORTS.

	<i>Boston.</i>	<i>New York.</i>
1832,	\$10,107,762	\$22,792,593
1847,	10,513,132	52,879,275
Increase,	\$405,364	\$30,086,682

It will be seen from the above, table that while our importations have increased about *two hundred* per cent., our exportations have only increased during that period, \$405,364, or about four per cent. This is explained by the fact, that we have as yet, nothing to export but debenture goods, domestic manufactures and ice. Soon, however, the case will be otherwise, and Boston will become a great export city. In the spring of 1851, our railroad system will be in full operation. We shall then have two thousand five hundred and thirty-seven miles of railroad, completed at a cost of more than \$100,000,000, connecting this city by railroad and steam navigation, with thirteen States of the Union, comprising an area of four hundred and twenty-eight thousand seven hundred and ninety-five square miles, the two Canadas, the lakes, with their five thousand miles of coast, and the whole embracing a population of *nine million one hundred and ninety-three thousand*. The transportation of freight on these roads, taking the returns of Massachusetts railroads as the basis for calculation, will be equal to *six million* tons annually, and when we consider the vast population to be accommodated by these lines of roads, and the immense business of the states through which they pass, the Canadas and the great west; it cannot be doubted that ere long, the capabilities of these roads will scarcely be found equal to the demands upon them.

The eligibility of Boston as an export city, is shown by the following reliable statement of distances as compared with New York :—

	<i>To Boston.</i>	<i>To New York.</i>
From Liverpool via. Halifax,	2,876	3,093
“ “ direct,	2,856	3,073
“ Halifax,	363	580
“ Montreal,	344	398

The aggregate difference in favor of Boston, is *seven hundred and five miles*. The difference between Liverpool and Montreal, in favor of Boston over New York, is *two hundred and seventy-one miles*.

The imports and exports of the lake harbors in 1848, was \$170,293,401, and one of our citizens, Mr. Degrand, asserts, that the business of the lake harbors is known to double

every four years. The number of vessels on the lakes is between nine hundred and one thousand, with a tonnage of *one hundred and fifty-three thousand four hundred and twenty-six* tons, valued at \$7,868,000.

The aggregate of exports from Canada West, in 1848, was \$10,000,000, and Secretary Walker, in his report, says the exchanges between Canada and the United States, under free trade regulations, would amount to \$40,000,000, annually.

The commerce of the Canadas, after our railroads are completed, is doubtless to be carried on through the United States, under recent acts of Congress, designed for this purpose, allowing goods and merchandise in transitu, to pass through the country free of duty. (The necessity for this is found, in the impossibility of navigating the St. Lawrence, for more than six months in the year.) The advantages of Boston, in the competition for this trade are so manifest, that their importance will be readily appreciated, and to avail herself of it, Boston must become an exporting city. Cargoes from Liverpool, in sailing vessels for the Canadas, may be delivered via. Boston, in thirty to thirty-five days, and twelve to fourteen days by steamships, and subject only to the freight on shipboard and railroad—and the productions of the Canadas and of the great west, may be shipped by the way of Boston at the same expense, and free from all charges of transshipment, &c.

These advantages must make Boston a great shipping port. Consequently, she must avail herself of the *advantages of her harbor, and the space occupied by these flats will be required for anchorage ground.* The true policy, and what the growth of the city will soon require to be done, is to excavate a large portion of the flats, and thus enlarge the capacity of the harbor. I have given you some facts and reasons why our harbor should not be contracted beyond the bounds of private rights, and the lines established.

There have been no wharves extended into our harbor one hundred rods, unless it be the Long Wharf, and perhaps, Central. Long Wharf was allowed for a consideration, as a means of defence to the town in its infancy. The wharves at the South and North End, East Boston and Charlestown,—none of them extend that length, and generally not more than half the length.

I have shown you that private enterprise at the wharves in the city proper, and at East Boston, is obliged to excavate the flats to deepen the water, at its own charge, and why should not South Boston proprietors be allowed the same privilege?

It may be said that another avenue is wanted to that section of the city. Already they have two avenues supported by the city, and if a third is required, it should never be permitted to be built over the flats northerly of Kneeland street.

South Boston has been annexed to the city about forty-five years, and has now a population of about 12,500;—while East Boston dates her existence, as part of the city, from June 1835, —only about fourteen years,—and has now a population of 10,000; and her only avenue or way of getting to the city is by her ferry, established and supported by a private corporation; and she has no way of connecting with the interior or main land, excepting by roads and bridges, built and maintained at the expense of private corporations. And would it not be better for South Boston, also, to maintain a ferry, if more facilities for travel are required, than to grant the flats asked for, upon any doubtful experiment that may ruin our beautiful harbor?

The area of the flats to be filled within the line extended to the northerly side of Kneeland street, as shown on the chart herewith submitted, is about 351 acres, equal to 15,289,560 square feet, and the average fill would be about twelve feet high; to make this space into solid land, would require in time, seventeen to twenty years. Twenty acres annually, would be the extent that could be made into land, using all the force that could be applied. For instance, the city have been already two years *or more*, filling up about sixty acres, of only about *half the depth*, easterly of Washington street, and it will take *several more years* to complete the work. It takes 387,300 cubic yards of earth to fill twenty acres. The whole quantity of flats within the "Cary" line on the chart, is about 880 acres, and could not be made into land, at twenty acres per year, under forty-four years. The original contents of *Boston proper* was about 700 acres; South Boston 600 acres, and East Boston 660 acres, including marsh lands. These comparisons will show the magnitude of the grant asked from the Legislature,—all that portion beyond a line one hundred rods from high water mark, belongs to the *public domain*, containing over 19,000,000 square feet,—

and which the constantly increasing commerce of our city requires for harbor accommodations; and these flats, if made into land, will materially decrease, rather than increase, wharf, as well as harbor accommodations, by greatly injuring the access to the south wharves.

This vast quantity of land, if allowed to be filled up and used, must be divided into streets, and will become a city of itself; no part of which, but the seaboard, or northeasterly side, could be used for commercial purposes, and that would be very much exposed. The remainder must be subdivided into lots for dwellings, and other purposes, and as it would be made land and exposed to all the easterly storms, it could not be desirable locations for genteel dwellings; none, therefore, but the poorest class of dwellings, and lowest order of population, would occupy it. The sewers and drains must be carried through, and under the streets, and emptied directly into the main channels, as well as all the flow from the surface of the streets,—and all this will be in addition to the sewers and flow of the streets from other parts of the city. There are, at this time, plenty of cheap lands for the city to extend upon, in South and East Boston, and in the Back Bay, between the Public Garden, the Mill Dam, and Washington street,—and these are the natural and proper directions for the city to extend.

In conclusion,—I have confined my remarks to general views, suggested by my own experience;—the weighty considerations touching the *exigency* and the powers of your commission, I leave to others. But perhaps I may be allowed here to say, that with much anxiety I have watched Boston harbor for many years, and it was at my instance and suggestion to the Mercantile Committee of the Legislature, at the session of 1834–5, that caused the appointment of the first Board of Commissioners to fix lines for the preservation of the harbor.

SAM'L. S. LEWIS,

*One of the Commisioners to procure a Survey of
Boston Harbor, under the Resolve of 7th April, 1849.*

F.

LETTER FROM WINSLOW LEWIS, ESQ.

Boston, November 1st, 1849.

SIR,—Ill health must apologise for my not complying with the request contained in your note of 19th October, at an earlier period.

As near as my recollection serves me, the substance of my testimony given before the commissioners, was :—Has the channel in Boston harbor become more shallow within my recollection. If so, at what period, and the cause of it?

I first went to sea from Boston, in 1783, and continued to sail from there until the war of 1812. During this period, I have no knowledge of any deviation of the depth of water in the channel, above what is called the lower middle ground. In 1814, we had several vessels loaded with stone, anchored in the shoalest part of the channel, that is, between the upper middle ground and Governor's Island, to be sunk in case of the approach of an enemy. At that time there was twenty-one feet of water, at low water, where those vessels lay. There is now but seventeen feet. From 1803 to 1808, I commanded a Liverpool packet, loaded at Liverpool wharf, where there was at that time fourteen feet at low water. Nine years ago there was but nine feet. From 1815 to 1842, the business I was engaged in gave me an opportunity of observing the progress of the water shallowing in the channel, particularly above Fort Independence and Fore Point Channel. Great progress had been made in filling up the flats, and extending the wharves all around the city, East Boston, Charles and Mystic Rivers. To this I attribute the cause of the channel filling up below the city. The body of head water being diminished, it follows that there was so much less to pass up and down the channel;—by which the strength of the current which had kept the channel clear, was very much lessened.

That there is much less water in the channel above Fort Independence than there was thirty years ago, I think must be admitted, and I give it as my opinion, that the cause of it is in filling up the flats and extending the wharves into the channel; and should we go on and turn all our flats into dry land, I think

the time will arrive when the present city of Boston can only be approached by vessels drawing a very light draft of water.

There is another view of the subject I take ;—the capacity of the channel round Boston is very limited, barely enough to accommodate the present shipping. What is to be done when that is increased threefold ? The only remedy must be, either in widening the channel by excavation, or building piers on the extensive flats for vessels to haul into, leaving the main channel clear for shipping to pass up and down. The flats once filled up and made into dry land, there is no remedy.

Respectfully, your obedient servant,

WINSLOW LEWIS.

Hon. J. M. Williams.

G.

STATEMENT OF THOMAS LAMB, ESQ.

Boston, October 22, 1849.

SIR,—In compliance with your request of the 20th instant, I will endeavor to relate the substance of my testimony before the commissioners the last year.

The channels of our harbor are preserved, only by the continued quantity of water passing through them, every rise and fall of the tide, and covering the flats as well as the channels, every full of the tide. The rise and fall of the tide water on the flats, is just as valuable for the purpose of the rapid movement of the currents through the channels, and in and out of the passage ways from the harbor to the bay, as the rise and fall of the tides in the channel ways.

The pressure of water is always downwards, and the deeper the channels, *if there is a side supply*,—the more rapid will be the current. This side supply, or quantity of water, has been very much reduced from the fillings up of the flats, basins and docks the past thirty years.

Boston originally measured about one thousand acres, now it measures more than three thousand acres :—this two-thirds addition to the upland of the city, has been made by these fillings up, and of course the same superficial measurement of the tide water

has been shut out from entering and departing through the channel ways of the harbor. This is not the only reduction:—to this must be added the vast quantity of water shut out by the Mill Dam, and all the fillings in, on the shores of our harbor opposite to the city proper, such as Charlestown, East Boston, South Boston, the Back Bay, &c. &c.

The effects already apparent from these great reductions, in the quantity of water flowing into and out of the harbor, are the reductions in the depths of the channel ways, the change of the current in the Narrows, and the filling in of Fore Point Channel.

The reduction in the depths of the channel ways are most apparent from Governor's Island, down through the Narrows to the Bay. The Boston Marine Society, composed of merchants owning navigation, masters of ships and underwriters, have taken a great deal of interest in this subject, and have, at various times, examined persons competent to answer enquiries connected with it, and from these examinations, they have ascertained, that the reductions referred to, have been from two to five feet in depth, that is, that vessels cannot, at this time, float through those channels, with so much depth of water by five feet, as they could have floated through with thirty years since.

The change in the current in the Narrows, has been noticed by our pilots and other navigators, for several years, and the report of our harbor master to the city government, the last year—most especially notices the fact, and recommends the adoption of some remedy, which that functionary thinks may prevent greater injury to that important passage-way for our large ships. This change has been produced from the reduction in the quantity of tide water, passing into the arm of the harbor, that is, properly Boston harbor; whereas, the quantity of tide water running into the other arm of the harbor, extending to the harbor of Hingham and Quincy, has not been reduced.

The tide waters from these two arms—divided by a line from Dorchester Point to Long Island Point—pass in between Point Alderton and Brewster Island Light-house, and between Brewster Island and Deer Island, [with the small quantity through Chelsea Gut] and these two supplies meet at the Narrows, and it is there that the supply coming through Broad

Sound, owing to so much of it having been prevented by the reductions in Boston Harbor, from coming into that arm,—now forces the current through the Narrows, and between Gallop's Island and George's Island, into the other arm that runs into Hingham and Quincy harbors.

Another effect from the reductions mentioned, is the reduced velocity of the current in the channel from South Boston Bridge, to beyond Fore Point Channel.

For many years that fore point of the flats opposite to India and Central Wharves, has been coming into and reducing the width and the depth of that channel, and there can be no doubt, should the Back Bay be filled up, and a few more wharves be made from South Boston, that the channel way from South Boston bridges along the whole line of valuable wharves, would rapidly fill up, quite to the north end of the city, where the velocity of the channel is aided by the waters from, and into Mystic and Charles Rivers.

The size of our harbor is not too large for our present shipping, and the shipping using this port, has doubled in tonnage within the last seven years. This fact, together with the very extensive arrangements for trade upon railroads, from the great lakes and from Canada, Vermont and New Hampshire, already nearly completed, promises a much greater increase for years to come,—and if so, it may be that the increased amount of shipping will require that a greater expanse of deep water should be obtained in our harbor, by excavating the flats between Boston and South Boston.

It is well understood, that the enlargement of our city proper, will be from filling up the flats, that are now uncovered by water, between the west part of our city and Brookline and Roxbury. This can be effected without injury to our harbor, and the property belongs to a corporation who have all the requisite rights for such a purpose, and whose interest can only be benefited by so doing. Therefore, whatever other enlargement of the upland of our city takes place, this will be effected without any doubt; and it will be on a plan commensurate with its prospective growth and importance.

The health of our city is promoted by the open space of flats between Boston and South Boston, much more than it would

be by having that space covered with low land and mud, and dust.

Very respectfully, your obedient servant,

THOMAS LAMB.

H.

STATEMENT OF Z. JELLISON, ESQ.

Boston, October 22, 1849.

Hon. Charles Hudson,—

DEAR SIR,—The substance of the testimony I gave, and the opinion I expressed before the commissioners, last autumn, on the subject of the flats in Boston harbor, was :

That the growing commerce of this city required the utmost limits of the harbor, as now defined, to accommodate the shipping employed in that commerce, in its present condition, as had been frequently demonstrated during the then preceding summer, after the prevalence of several days of north and east winds, bringing in some hundreds of coasting vessels from Maine and the British Provinces ; which, in the already crowded state of the channel, resorted to these flats, either from necessity, convenience, or for security, anchoring or running on the soft mud, according to the time of tide, in either case equally safe.

That from the accounts of some of the oldest pilots, it was evident that the draft of water in the narrows or ship channel, had, within the last thirty years, diminished some six or eight feet, and that this diminution was progressive ;—showing that the cause, whatever it might be, still existed, or had not ceased to be operative. The only satisfactory cause, to my own mind, was the great contraction of the inner harbor, within the before named period, or from a point of time a few years more remote, by filling up flats, extending wharves and piers on every side, making, in the aggregate, about 1,400 acres of surface, every foot of which was as efficient in producing a current, as like superficies of the deepest water in the harbor. From these causes the current had become more sluggish, and the accretion in the channel of the Narrows, from the washing and wearing away of the islands on either side, had doubtless increased, as the force of the current had diminished.

Under such circumstances, it would not be wise to allow further contraction of the inner harbor, either for private or public convenience, particularly as there is, and has, for some years, been a disposition to construct, for the merchants' service, ships and steam packets, requiring as great a draft of water as heavy ships of war, for the entrance of which our harbor may, at some day not far remote, be regarded as unsafe; and even a well founded conjecture to that effect, would be wafted upon the wings of the wind, and never permitted rest until it produced an effect.

I am, dear sir,

Your obedient servant,

Z. JELLISON.

I.

STATEMENT OF H. A. S. DEARBORN, ESQ.

Roxbury, November 26, 1849.

To the Commissioners in relation to the Flats in Boston Harbor.

GENTLEMEN,—I respectfully present a statement as to the claim of the city of Roxbury to a portion of the territory within its limits, which was formerly included in the Back Bay, west of Boston, and request that it may be placed on file in your office.

On the 12th day of September, 1831, a committee was appointed by the town, to establish the bounds of the flats claimed by it, and David Sears, Esq., of Boston, within the eastern, or empty basin of the Boston Mill Dam Corporation; and an indenture was executed on the 15th of November, 1832, by which it was stipulated that a road might be constructed by said Sears through the flats claimed by Roxbury, which was delineated on a map made by S. P. Fuller, on the 20th of October, 1832; and that said road should be the dividing line between the land owned by the town and said Sears. The road was laid out, forty feet wide, and two thousand feet south of the Mill Dam.

The flats owned by the town, north of said road, contained over seventy-two acres; but the area of the territory claimed by the town, extends north and east to the boundary lines between Roxbury and Boston; as by the Act of the 16th

of March, 1836, for establishing the boundary lines between Roxbury and Boston, the "*territory and jurisdiction*" on either side of said lines was *confirmed* to said town and city, respectively.

Roxbury considers its claim and title to the *territory* above described, as perfect and conclusive, not only against all persons, but also the Commonwealth, it being part of the domain which was acquired when the town was primarily occupied in 1630, and a municipal government established therein, and the right thereto confirmed, not only by the laws of the colonial government, as well as by an undisputed possession of more than two hundred years, but also by the Act of March the 16th, 1836, above named; for it appears by the records of the town and the colony, that the "*ground*" in Roxbury, not granted to individuals, was confirmed to the town as early as 1636; and thereafter grants were repeatedly made by the town, to individuals, either without compensation or for some specified purpose, or on special conditions, until 1662, when it was "Voted, that no more land be given away, but that it be kept for the town's use;"—therefore, the fee to the *territory* within the bounds of Roxbury, which has not been alienated, is still in the city; and as the tract which is claimed in the empty basin was not granted to any person, it must now be deemed as the property of the city.

So long as the Boston Mill Dam Corporation consider it expedient to make use of the empty basin, in which the territory claimed by Roxbury is situated, for the purpose for which it was formed, it is not probable that any attempt will be made by the city to occupy, or render available in any manner, the area between the flats and the northern and eastern boundary lines between it and Boston. But, in the event that the hydraulic power of that corporation should be relinquished, and the proprietors interested in the territory within that basin, should then determine to fill it up, and convert it into solid land for building lots, or any other objects, the city of Roxbury would have the right of thus rendering useful the whole of its territory, for it having been confirmed to it by the Legislature, any claim which the Commonwealth might otherwise have had thereto, has been estopped by the Act which has been named. The most significant and appropriate term was introduced in that Act, to secure to Roxbury, not merely the upland, marsh, and flats, but the

portion covered by water;—for *territory* includes the entire area within the bounds of Roxbury.

It is the word used in the charter of William and Mary, to include the colonies of Massachusetts, Plymouth, Maine, and Arcadia, in the Province of Massachusetts Bay, being called “*Territories*,” to define their *physical geographical areas*, and “*Colonies*,” as designative of their government or *jurisdiction*.

In the deed of cession of Massachusetts, of 1785, to the United States, of all that portion of the State, which by its original charter was included between the Niagara River and the Mississippi, the word “*territory*” was used; and in the agreement with the State of New York, which was executed in 1786, for a compromise of the claim of the Commonwealth, to the region extending from its present western bounds to the Niagara River, Massachusetts *released* the “*jurisdiction*,” and New York “*confirmed*” to Massachusetts, the “*territory*,” from Senaca Lake to within one mile of Niagara River.

The construction, therefore, which Roxbury has given to the Act of March, 1836, is warranted by precedents contained in the laws and records of the Commonwealth; and it is consequently presumed, that it will not interpose any claim adverse to that which Roxbury presents for your consideration.

With sentiments of the highest respect,

Your most obedient servant,

H. A. S. DEARBORN,

Mayor of the City of Roxbury.

K.

STATEMENT OF DAVID SEARS, ESQ.

Flats in the Back Bay Basin.

1822. By a partition deed, Gravelly Point, and land and flats in the receiving basin of the present Water Power Company, were conveyed to David Sears and others,—originally purchased by Uriah Cotting and others, of the old proprietors of Roxbury.

1824. The respective boundaries between the city of Boston and land of David Sears and others, established by indenture. Through the centre of the eastern channel,—the first boundary of the town of Boston.

1832. The respective boundaries between the town of Roxbury and David Sears, established by indenture. A town road laid out and recorded, and a right given to David Sears to take soil, &c., from the Roxbury flats.

1836. The respective boundaries of the city of Boston and the town of Roxbury in the empty basin, or back bay, were confirmed and established by an Act of the Legislature, “ And the territory and jurisdiction on either side of the said lines, as hereby established, are accordingly confirmed to said city and said town, respectively.”

Flats North of the Mill Dam.

1824. A Resolve of the General Court gave the right to the Boston and Roxbury Mill Corporation, to use and occupy,—for certain purposes,—two hundred feet north of their dam, west of low water mark, on the west side of the eastern channel.

1843. An Act of the General Court gave to the above named corporation the right to fill up, and use,—for certain purposes,—one hundred feet of the flats north of the Mill Dam, to Sewell’s Point, in Brookline,—limited to one hundred yards to the northward and eastward of the eastern-most sluiceway. Thus forever cutting off the Back Bay from the ocean.

N. B. The above Act, &c., not including the right to erect dwelling houses, it is presumed that the Boston and Roxbury Mill Corporation intend soon to apply to the General Court for an unrestricted grant to fill up and use these flats, and will propose, as an equivalent therefor, to discharge their Mill Dam of its right of toll.

By request,

DAVID SEARS.

To Hon. John M. Williams, Chairman of the Commissioners appointed under a Resolve of the Legislature.

BEACON STREET, November 21, 1849.



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